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LIBERALIZATION OF JAPAN'S BEEF AND ORANGE MARKETS: WINNERS AND LOSERS

Summary

For years Tokyo's restrictions on beef and orange imports have been a symbol of the limited market opportunities in Japan for U.S. suppliers of both farm commodities and nonagricultural products. Japan's position as the top customer for U.S. agricultural exports year in and year out has not affected this perception; neither has the fact that Japan is the dominant buyer of American beef and one of the three biggest markets for oranges. That should finally change. Japan has agreed to scrap its import quotas on beef and oranges after a three-year transitional period, during which the government will try to help farmers prepare for the coming era of increased international competition through a costly package of subsidies and loans. Trade will not be free after March 31, 1991 since domestic beef producers and mandarin growers will be protected by high tariffs. American beef and citrus exporters as well as Japanese consumers nevertheless will come out winners. There will, however, be losers on both sides of the Pacific, including U.S. feed grain suppliers.

Helping Farmers

A fixture of the conventional wisdom about Japan is that Japanese farmers receive extensive government assistance and that Japanese food buyers pay a high price for this help. For once the common perception of Japan is on target, at least up to a point. While Japanese agriculture as a sector is heavily supported, this result largely reflects the high level of government intervention in food grains -- particularly rice, which accounts for one-third of the country's gross agricultural output -- and dairy products. Aid for beef producers, although considerable by any measure, falls short of what rice growers and milk producers get; the same applies to pork, sugar and soybeans. At the other end of the continuum, the amount of support provided to producers of chickens, citrus, noncitrus fruits and vegetables is not out of line with what farmers receive in other industrialized countries.

Whether high, low or in-between, the level of assistance for a commodity does not necessarily translate into an equal level of protection. That calculation depends first of all on the balance between direct farm-subsidy programs, notably price supports, and indirect subsidies resulting from border measures, including state trading, import quotas and tariffs, and then on how prices are supported and what types of border measures are applied. For example, deficiency payments by themselves do not shield farmers from import competition, although they can affect the volume of trade by encouraging domestic production. In Japan, however, there is a close correlation between the level of assistance and the level of protection. The reason is simple: government assistance for most commodities comes largely from import restrictions (chicken and citrus) or domestic price-support programs tied to border measures (rice, dairy products, beef, pork and sugar) (see JEI Report No. 44A, November 20, 1987).

Given the fact that almost every agricultural commodity produced in Japan benefits more or less from import barriers, an obvious question is why the United States has zeroed in on the government's beef and citrus policies. The short answer is by process of elimination. Rice, at least until recently, has been off-limits for political reasons, even though Tokyo's control over both domestic production and trade has produced a near-total ban on imports. An end to state trading of wheat and barley probably would not generate much additional demand, in part because imports already supply 90 percent-plus of the market. Japan's milk and sugar policies, although trade-distortive, never have been serious candidates, either, since the United States provides basically the same type of assistance to American producers that Japan does -- price supports linked with border measures. Pork and chicken also have been out. The variable levy applied to pork imports as part of the domestic price-stabilization system has a limited effect on trade volumes, while the tariff on chicken, practically the only assistance given to poultry producers, has an even smaller impact on imports.

That leaves beef and citrus. By any standard government assistance to beef producers has a substantial impact on trade flows. In broadbrush terms, a system of restrictive import quotas, stiff tariffs (25 percent) and steep markups on foreign beef is used to maintain domestic beef prices within a fixed band. Like other price-support programs tied to border measures, this arrangement is a relatively inexpensive way for the government to help producers since Japanese consumers underwrite a big part of the cost through artificially high beef prices. Wholesale prices of domestic beef are at least twice as high as imported beef prices and these in turn are about double wholesale prices in Australia and the United States. Not surprisingly, per-capita Japanese beef consumption is roughly one-seventh the U.S. level.

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The trade effect of government assistance to mandarin growers -- import quotas on both oranges and orange juice plus high tariffs (20 percent on oranges during the June-November period and 40 percent at other times and about 25 to 35 percent on orange juice) -- is less clear-cut. Border measures obviously inflate the prices of imported oranges, but even without these markups, American oranges still would be more expensive at the wholesale level than mandarins except during the off-season for the domestic fruit. Moreover, the relatively high level of Japanese consumption of citrus, particularly fresh citrus, further limits the import potential for oranges.

The Need for Protection: Beef

Japanese beef producers are high-cost suppliers. That basic fact is the key to the web of measures limiting import competition. Why production costs in Japan far exceed world levels is more complex, but the logical starting point is the limited scale of Japanese beef operations. Approximately 250,000 farmers currently are involved in the beef business, either as breeders or feeders. Most raise wagyu cattle, although these Japanese beef breeds account for only 30 percent-plus of the country's annual beef production. The rest are dairy farmers who generate part of their income from raising and fattening Holstein steers for beef or selling culled cows after some fattening. But whatever the type of cattle, beef production, like most of Japanese agriculture, generally is a sideline activity. In 1987, for example, the average herd had 9.7 head of cattle, an improvement on 1981's figure of 6.5 animals but far too small for cost-efficient production. More telling, 85 percent of all producers still had fewer than 10 head of cattle that year despite a 40 percent reduction in the number of households raising just one or two animals (see Table 1).

Table 1: Number of Beef Producers in Japan, 1981 and 1987

	Number of Producers*			
Number of Head	February 1, 1981		February 1, 1987	
1-2	185,200	52.5%	111,800	41.0%
3-4	78,800	22.3	70,200	25.8
5-9	51,800	14.7	48,700	17.9
10-19	18,300	5.2	20,100	7.4
20-29	6,560	1.9	6,840	2.5
30-49	4,960	1.4	5,410	2.0
50-99	4,500	1.3	5,100	1.9
100 or More	2,800	0.8	4,270	1.6
Total	352,800	100.0	272,400	100.0

*Includes producers raising dairy cattle for beef.

Note: Numbers do not add to total because of rounding.

Source: Ministry of Agriculture, Forestry and Fisheries, Statistical Yearbook.

In one sense, though, the decline in small-scale operations has backfired because it has exacerbated the problem of inadequate supplies of feeder calves, particularly in the wagyu sector. The uncertain returns from raising calves for fattening has long been recognized as a bottleneck to the development of Japan's beef industry. To overcome this constraint, the Ministry of Agriculture, Forestry and Fisheries set up a price-stabilization program for wagyu calves (males and females) in 1970 and a similar arrangement for dairy steer calves in 1972. Funded jointly by the central government (50 percent), prefectural governments (25 percent) and breeders (25 percent), the programs provide deficiency payments to calf producers when market prices fall below target prices.

This safety net was needed in the early 1980s when calf prices took a nosedive, but most breeders apparently still lost money since payments from the stabilization funds cover only 90 percent of the difference between market and target prices. That experience, coming on top of similar problems in the mid-1970s, convinced large numbers of marginal operators to get out of the calf-raising business. At the same time, many of those who stayed in lost interest in expanding their herds. On paper, at least, that problem should have been eliminated by the strong recovery of calf prices since mid-1984 but, if anything, the calf-breeding base has contracted further.

The constraint of inadequate feeder-calf supplies is compounded by the shortage of grazing land in Japan, which forces the majority of breeders to raise their animals in sheds. This extremely labor-intensive process is, in fact, the main reason Japanese beef producers are not competitive with foreign suppliers. Feeder-calf prices represent roughly 45 percent of the cost of production for farmers fattening wagyu steers and about 40 percent for operations feeding dairy steers (see Table 2). And those prices have been three to five times higher than U.S. levels in recent years.

Compound feed is the other big factor in the cost equation, accounting for another 40 to 45 percent of the total. Feed prices in Japan are not much above charges in the United States and elsewhere since almost all the ingredients used by domestic feed mills are imported. Moreover, beef producers have gotten a break on feed prices for the last three years because of the yen's sharp appreciation and lower international grain prices. What drives up this cost, however, is the Japanese industry's feeding method.

In this country cattle are fattened for about four months since the daily weight gain starts to drop after that time. In Japan, however, wagyu steers are kept on feed for approximately 19 months and dairy steers for 12 to 13 months to increase the amount of marbling in the meat. This method of production is not economically inefficient as long as beef producers can recoup the higher costs of feed associated with extended fattening in their selling prices. In fact, the average fattening operation has made money, although not much, since 1984.

Until recently the government's price-stabilization system for beef, which covers meat from both wagyu cattle and dairy steers, promoted prolonged feeding since support prices were maintained at high levels. In April 1987, however, support prices were reduced for the first time ever. This past April the previously separate support prices for wagyu beef and dairy steer beef were combined and then cut, with the new number 27.4 percent below FY 1987's wagyu beef support price but only 2.5 percent less than the one for dairy steer beef. In announcing the FY 1988 support price, MAFF officials made it clear that the

Table 2: Costs of Beef Production in Japan, 1986

(per head)

	Cost of Fattening Beef Steer	Cost of Fattening Dairy Steer
Purchased Feeder Calf	Y278,595	Y178,615
Feed	235,682	192,179
Commercial Feed	217,603	185,316
Purchased	210,004	183,297
On-Farm Product	7,599	2,019
On-Farm Forage Crops and Grazing	18,079	6,863
Bedding Materials	12,852	10,800
Purchased	8,989	10,210
On-Farm Product	3,863	590
Utilities	3,979	3,016
Veterinary Expenses	4,019	3,529
Operating Expense Interest	1,109	357
Buildings	10,548	7,945
Depreciation	9,495	6,965
Repairs	1,053	980
Machinery	10,133	9,125
Depreciation	8,423	7,570
Repairs	1,288	1,245
Interest Charges	422	310
Labor	80,728	33,566
Hired	30	530
Family	80,698	33,036
Subtotal	637,645	439,132
Purchased	504,562	378,847
Self-Supplied	115,165	45,750
Depreciation	17,918	14,535
Value of By-Products	30,550	15,447
Net Production Expenses	607,095	423,685
Real Estate Interest	20,855	11,638
Rent	4,470	2,813
Total Production Costs	632,420	438,136
Gross Income	732,216	503,696

Note: The average farm fattened 14.3 beef steers or 37.2 dairy steers in 1986. Producers fattened beef steers 19.1 months on average, increasing their weight by 355.5 kilograms (783.7 pounds) for a selling weight of 641.3 kilograms (1,413.8 pounds). Dairy steers were fattened for an average of 12.7 months to a selling weight of 652.7 kilograms (1,438.9 pounds), a gain of 398 kilograms (877.4 pounds).

Source: Ministry of Agriculture, Forestry and Fisheries, Statistical Yearbook.

changes were designed to encourage greater output of lower-priced, medium-grade beef from dairy steers at the expense of high-priced, high-quality wagyu beef production.

Dairy steers have provided much of what little increase has occurred in Japanese beef production during the current beef cycle, which dates to 1984, with culled dairy cows supplying the rest (see Table 3). Recent animal numbers indicate some additional expansion in beef from dairy steers over the short run, but the medium-term outlook is not promising. Because of continuing milk surpluses, fewer dairy cattle are expected to be bred and this will limit the number of dairy steer calves available for fattening.

Table 3: Japan's Beef Supply, 1983-87

(in metric tons; carcass weight equivalent)

	1983	1984	1985	1986	1987
Domestic Production	494,938	536,061	555,256	558,620	564,883
Japanese Beef Cattle	157,894	192,843	201,585	191,876	176,908
Japanese Dairy Cows	160,505	163,493	165,923	172,092	179,414
Japanese Dairy Steers	170,726	173,520	179,772	183,763	195,254
Foreign and Hybrid Beef Breeds	3,499	3,755	5,679	9,004	11,732
Calves	2,314	2,449	2,297	1,885	1,575
Imports	137,426	145,559	150,579	179,104	220,032
Australia	90,952	91,842	92,936	105,167	121,127
United States	37,711	42,238	46,514	63,389	85,292
Total Supply	632,364	681,620	705,835	737,724	784,915
Import Share	21.7%	21.4%	21.3%	24.3%	28.0%

Source: Ministry of Agriculture, Forestry and Fisheries, Statistical Yearbook.

The Need for Protection: Mandarins

While Japan's beef industry has had trouble increasing output at more than a marginal rate, citrus growers have had to grapple with the opposite problem. Keeping the production of unshu mandarins or mikans under control has been a challenge since the early 1970s when trees planted in the late 1960s began producing fruit, yields started rising and, at the same time, the growth in demand for fresh mikans was tapering off. Assuming that these developments were just the beginning of a long-term problem, producer groups, backed by the government, went into action, discouraging the expansion of orchards, pushing growers to eliminate low-yielding trees and promoting increased consumption of juice and other processed mikan products.

By the late 1970s, however, it was apparent that more drastic steps were needed to keep production from putting constant downward pressure on prices, even though the acreage planted to mikans had peaked at 173,100 hectares (about

427,600 acres) in 1973. The response was a government-funded program to cut the size of mikan orchards from roughly 150,000 hectares (370,500 acres) in FY 1979 to 120,000 hectares (296,400 acres) in FY 1983. The program was a success on paper as production contracted from 3.6 million metric tons in 1979 to about 2.9 million metric tons in 1983, but prices, after firming in 1981 and 1982, dropped again in 1983, an "on" year for the alternate-bearing mikan. Clearly the increase in demand for citrus juice was not strong enough to prop up prices in the face of a continuing fall in consumption of mikans as fresh fruit, the market for roughly 70 percent of the annual crop.

MAFF therefore initiated another acreage-reduction project designed to trim the mikan area by an extra 10,000 hectares (24,700 acres) during the FY 1984-FY 1986 peri[illegible]. Growers actually exceeded this goal, with the 1986 harvest on the low side even for an "off" production year. But the boost given to prices proved fleeting since the 1987 crop, at 2.5 million metric tons (see Table 4), came in well over target despite another drop in the producing area and thinning of the crop. To make matters worse, a surplus of mikan juice had been added to the problem of declining fresh mikan consumption.

Table 4: Citrus Acreage and Production in Japan, 1983-87

	1983	1984	1985	1986	1987
Growing Area (hectares)					
Unshu Mandarin (Mikan)	120,700	116,400	112,500	108,400	105,100
Mandarin Hybrids and Summer Oranges	34,730	34,620	34,180	33,800	32,930
Naval Oranges	4,970	5,060	5,020	4,840	4,670
Total	160,400	156,080	151,700	147,040	142,700
Production (metric tons)					
Unshu Mandarin (Mikan)	2,859,000	2,005,000	2,491,000	2,168,000	2,518,000
Mandarin Hybrids and Summer Oranges	724,700	661,000	459,700	652,400	710,700
Naval Oranges	59,700	58,700	62,500	61,900	67,000
Total	3,643,400	2,724,700	3,013,200	2,882,300	3,295,700

Source: Ministry of Agriculture, Forestry and Fisheries, Statistical Yearbook.

As prices headed for new lows during the 1987-88 winter marketing season, MAFF officials and grower representatives once again tried to figure out how to bring mikan production into line with demand. The target for the 1988 harvest initially was set at 2.15 million metric tons, close to 1986's output, but later was lowered to 1.9 million metric tons. While it was hoped that this cutback could be achieved through thinning, ministry and industry officials alike recognized that a third acreage-reduction program still might be necessary.

Eliminating Import Barriers

Washington has been trying to break down the barriers that restrict U.S. exports of beef, oranges and citrus juice to Japan since at least the 1960s. With their demand for the removal of the quantitative restrictions on these commodities repeatedly rebuffed in the 1970s, American trade negotiators finally settled in December 1978 for an expansion in the quota volumes over the FY 1980-FY 1983 period. But, as Tokyo quickly discovered when talks on a new beef and citrus arrangement started in October 1982, the United States had not abandoned its goal of liberalization. The two sides battled over what Japan should or could do for 17 months before bridging their differences in April 1984. The compromise committed Japan to expand the quotas on beef, oranges and orange juice by significant margins over the next four years and to decontrol imports of grapefruit juice immediately (see Table 5).

Table 5: Japan's Beef and Citrus Quotas, FY 1983-FY 1992

(in metric tons)

	Beef			Oranges			Concentrate Juice	
Fiscal Year	First Half	Second Half	Total	Annual	Off-Season	Total	Orange	Grapefruit
1983	72,000	69,000	141,000	36,500	45,500	82,000	6,500	6,000
1984	76,000	74,000	150,000	44,750	48,250	93,000	7,000	--
1985	80,000	79,000	159,000	53,000	51,000	104,000	12,500	--
1986	85,000	83,000	168,000	61,250	53,750	115,000	15,000	--
1987	93,000	121,000	214,000	69,500	56,500	126,000	8,500	--
1988	98,500	175,500	274,000	91,500	56,500	148,000	15,000	--
1989	n.a.	n.a.	334,000	n.a.	n.a.	170,000	19,000	--
1990	n.a.	n.a.	394,000	n.a.	n.a.	192,000	23,000	--
1991	[----- no quota -----]			[----- no quota ----]			40,000	--
1992							[no quota]	--

Notes

1. Beef - Includes the general quota (253,600 metric tons in FY 1988) as well as the smaller quotas for hotels (10,000 metric tons), Okinawa (8,000 metric tons), school lunches (1,400 metric tons) and demand development (1,000 metric tons). Also includes imports of high-quality beef, for which there is no separate quota.

2. Oranges - The annual quota covers imports at any time during the year, while the off-season quota is restricted to the June-August period.

3. Orange juice - The jump in the FY 1985 quota reflects an extra 5,000-metric-ton allocation to free domestic output for processing in the wake of a reduced 1984 harvest. The same factor explains why the FY 1986 quota was set at 15,000 metric tons rather than the expected 8,000 metric tons.

4. Grapefruit juice - Imports were decontrolled at the start of FY 1986. In FY 1984 and FY 1985 import licenses were issued to supply demand.

As the March 1988 expiration date of the 1984 agreement approached, the White House took the line that there would be no negotiations on a replacement pact until Japan came up with a "reasonable" timetable for liberalization; in Washington's view, Tokyo already had promised to free imports. For its part, the Japanese government stuck to the position that while additional increases in quotas were acceptable, liberalization was impossible, at least in the medium term. With neither side willing to bend, the 1984 arrangement expired.

The Reagon administration then made good on its longstanding threat to ask the General Agreement on Tariffs and Trade to rule on the legality of Japan's beef and citrus quotas. That action, more than anything, it appeared, convinced senior members of Noboru Takeshita's government and their political colleagues that liberalization was inevitable by the early 1990s. Working out the details of this historic move was another matter, but with a remarkable show of flexibility by both Tokyo and Washington, U.S. Trade Representative Clayton Yeutter and MAFF Minister Takashi Sato came to terms in late June on an arrangement to decontrol Japan's imports of beef, oranges and orange juice.

Japan will remove its quota on beef imports April 1, 1991. During the three-year phase-out period, the import ceiling, fixed at 214,000 metric tons in FY 1987, will be raised by 60,000 metric tons annually to 394,000 metric tons in the April 1990-March 1991 period -- a volume that will bring Japan close to de facto liberalization. By the time the quota is lifted, the Livestock Industry Promotion Corp., which now controls about 80 percent of all purchases and sales of foreign beef, will be out of the imported beef business, although the semigovernmental organization will continue to operate a price-stabilization program for domestic beef.

Equally important in the short run, LIPC is expected to reduce its huge markups on imported beef during the transition to liberalization, although the 25 percent tariff will remain in effect. (These surcharges equaled 96 percent of the landed price of foreign beef in Japan at the time Washington and Tokyo negotiated the new agreement.) High-cost Japanese producers will not be completely at the market's mercy when April 1, 1991 comes around, though, since the United States agreed to Japan's plan to levy tariffs on imported beef of 70 percent in FY 1991, 60 percent the next 12 months and 50 percent from April 1993.

These tariffs were one of the final obstacles to an agreement. The Reagan administration initially ruled out new or expanded border measures after liberalization on the grounds that they could have the same exclusionary impact as the quotas. U.S. trade officials later did some backpedaling. A 50 percent duty was acceptable, they conceded, as long as it was limited to the three-year period following liberalization. In the end Tokyo and Washington compromised, agreeing that the tariff rate after March 1994 would be negotiable during the Uruguay Round of multilateral trade talks.

A similar scenario unfolded on safeguards. Japan wanted some form of permanent authority to counter import surges after the beef market was opened, but American negotiators repeatedly rejected this demand, maintaining that it violated international trade rules. The U.S. side finally gave in, allowing Tokyo to invoke emergency curbs for three years following liberalization. If imports in any April-March period between FY 1991 and FY 1993 exceed the volume of the previous 12 months by 120 percent, the Japanese government can impose an extra 25 percent tariff for the rest of that fiscal year. After April 1, 1994, though, safeguard actions will be restricted to those permitted by GATT.

The give-and-take evident in the bargaining on beef carried over to oranges and orange juice. Japan will decontrol the orange market at the same time it lifts the quota on beef imports -- April 1, 1991. In the meantime the quota will be expanded by 22,000 metric tons each year or from 126,000 metric tons in FY 1987 to 192,000 metric tons in the April 1990-March 1991 period. Japanese producers will have no protection from import competition after liberalization beyond the current tariffs of 20 percent in the off-season for mikans (June-November) and 40 percent at other times.

Orange juice concentrate imports will be freed April 1, 1992 or a year after oranges are liberalized. To prepare for free trade, the quota will be increased almost five times. During the phase-out period there also will be changes in the requirement that imported orange juice be blended with mikan juice. Starting this year, the regulation will be eliminated for 40 percent of imports. In FY 1989 the restriction will be lifted for 60 percent of foreign purchases, and it will be removed April 1, 1990. In addition, imports of single-strength orange juice and juice mixtures will be allowed for basically the first time.

Easing the Adjustment

Having made the once-unthinkable decision to end the quotas on beef and citrus, Japanese agriculture officials and Liberal Democratic Party leaders had to tackle the equally tough job of figuring out how much assistance and what kind to extend to domestic beef producers and mikan growers to help them adjust to the coming era of liberalized trade. By late August the major details of a Y156 billion ($1.3 billion at Y125=$1.00) package had been finalized. Few new initiatives are contemplated, at least for now; most proposed measures simply build on or revamp existing programs.

Roughly Y50 billion ($400 million) in subsidies and loans has been earmarked for Japan's beef industry in FY 1988 and FY 1989, with some of this money coming from the tariff on imported beef and the rest from the budget. (Additional funds will be provided starting in FY 1990 out of tariff proceeds.) Not surprisingly, the main thrust of this part of the package is to encourage calf-raising in both the wagyu and the dairy sectors, primarily through changes in the two price-stabilization funds. In fact, the target price for dairy calves (now including heifers) has been raised already, while a new formula for calculating the guaranteed price for wagyu calves will be introduced in FY 1990. At the same time, a number of current loan programs will be expanded, including one to encourage larger breeding operations.

The other major planned expenditure -- perhaps as much as Y10 billion ($80 million) -- is for interest subsidies on Y150 billion ($1.2 billion) worth of bank loans held by calf raisers and cattle feeders. This measure, which expands on an existing program, apparently is the only one targeted at fattening operations. Producers as well as agricultural experts in Japan have pressured the government to subsidize feeder cattle purchases to help bring beef production costs closer to international levels, but the enormous price of such a program (a minimum of Y100 billion -- $800 million -- a year to cover one-half of the cost of feeder calves, according to one estimate) makes it hard to sell to the Ministry of Finance.

Expansion of the number of feeder cattle that can be imported duty-free also would help beef producers on the cost front, but this alternative, while far less expensive than the proposed subsidy program, has been rejected as well, at least for the time being. The tariff quota on feeder calves, set at 10,000 head for FY 1986, was raised in FY 1987 to 25,000 head and then kept there for the current fiscal year. MAFF officials say a chronic shortage of quarantine space in Japan prevents an expansion of the tariff quota, but it is clear that such a move would undercut the domestic breeding base.

The Y106 billion ($848 million) program for mikan growers also has created controversy, particularly in the Finance Ministry. As might be expected, it features another acreage-reduction plan, this one to cut FY 1988's estimated planted area of 100,000 hectares (247,000 acres) by 22,000 hectares (54,300 acres) in the hope of decreasing "on" year production from 2.4 million metric tons to 1.8 million metric tons. Growers will receive Y300,000 per 10 ares ($2,400 per quarter-acre, roughly) of land taken out of mikan production. (One hectare equals 100 ares.) With this payment fixed at nearly four times the FY 1984-FY 1986 figure, the new program is expected to cost Y54 billion ($432 million). MAFF has penciled in a three-year timeframe for the cutback but would like to complete it this year.

Aside from Y22 billion ($176 million) set aside to improve productivity and mikan quality, the other major initiative planned is a supplemental price-support program for mikans sold for juice. Assuming that the end of the blending requirement for imported orange juice and an open market will undercut the demand for mikan juice, the government is prepared to spend Y25 billion ($200 million) over the next eight years to compensate mikan growers for the expected extra fall in the wholesale price of fruit for juice. This special payment will be added to 90 percent of the deficiency payment available since 1972 whenever the market price of fruit for processing drops below the target price. The government will cover 75 percent of the cost of the new program and the processing industry will pick up the rest. The standard deficiency payment, however, will be financed equally.

Winners and Losers

Elimination of the import quotas on beef, oranges and orange juice will be a boon to Japan's consumers and U.S. exporters of these products. That much is intuitively obvious. To what extent is another matter, particularly for beef. Research done in the early 1980s indicated that an end to the beef quota would cut Japanese retail beef prices anywhere from 30 percent to 75 percent, boost consumption in the range of 40 percent to 100 percent and lift imports two to six times over then-existing levels. Recent work by American and Australian economists also concludes that liberalization will have enormous effects on the Japanese beef market over the short to medium term, although the orders of magnitude generally are less because newer data were used for price, consumption and import bases.

As all these economists are quick to point out, the validity of their forecasts hinges on some critical assumptions. The key one concerns the comparability of Japanese beef and the imported product. Some analysts believe American grain-fed beef competes with the middle to upper grades of domestic dairy steers or the lowest wagyu grades, while Australian grass-fed beef is comparable to the bottom dairy steer grades. Others think American beef better matches the quality of middle-to-lower-grade dairy steer beef. If this second group is right, then the impact of liberalization on Japanese retail prices will be at the low end of the projected range, which will limit the gains in consumption and imports. The same applies if the price elasticity of demand for beef is not as high as generally estimated.

There also is some debate over how American exporters will fare against Australian competitors in a deregulated market. Australia has supplied about 60 percent of Japan's beef imports in recent years, with the United States accounting for most of the rest. Several analysts predict that Australia will increase its market share after liberalization since in their view the quota system discriminates against lower-priced Australian beef. Others argue that the consumer preference for moderately marbled beef will work in favor of more purchases of American grain-fed beef. But regardless of which side is right, the volume of U.S. beef exports to Japan will go up significantly simply because of market growth.

On one issue at least there is a consensus: the government will support Japanese beef producers after liberalization through a new system of deficiency payments bridging the widened gap between market prices and production costs. Although the cost of such a program might seem prohibitive, there is no alternative if Japan is to maintain a beef industry anywhere near its current size since elimination of the import quota will gut the existing price-stabilization system.

Under this system LIPC intervenes in the market to keep the wholesale prices of Japanese beef between annually set floor (support) and ceiling prices, buying domestic beef and stocking it when prices fall too low -- a rare development -- or, more frequently, selling stocks when prices move above the ceiling. Since the corporation controls the vast majority of beef imports and normally has no supplies of domestic beef on hand, foreign beef is released into the market to bring down wholesale prices. No longer involved with imports after March 31, 1991, LIPC will not have access to the stocks needed for intervention.

The end to LIPC involvement in the import business will bring another, equally far-reaching change. Because of the enormous difference between the cost of foreign beef to LIPC and its resale price, the organization's buying and selling operations are a huge money-making machine. In FY 1986, for example, LIPC profits on imported beef totaled Y50.5 billion ($404 million). Last year they came to Y31.7 billion ($253.6 million), with the FY 1988 figure estimated at Y38.6 billion ($308.8 million). Most of this money is used to fund off-budget livestock-related projects. In FY 1992, however, the government will have to assume financing responsibility for these programs, although some of the proceeds from the stiff tariff on imported beef could be used for this purpose.

Many analysts worry that there could be losers from beef liberalization on this side of the Pacific as well, particularly U.S. exporters of corn, sorghum, soybeans and other ingredients used in compound feed. One concern is that increased beef consumption will come partly at the expense of pork and chicken, causing a contraction in Japan's big hog and broiler industries and a corresponding drop in demand for U.S. feed ingredients. Another is that even with deficiency payments to Japanese beef producers, there will be a cutback in cattle placed on feed as marginal operators continue to get out of the business.

This obviously would have repercussions for U.S. exports; so would a reduction in the length of the fattening process.

While an end to the beef quota clearly will benefit U.S. beef suppliers, the gains to this country's citrus industry from orange liberalization are expected to be modest. For one thing, American oranges, although lower-priced than now, still will be more expensive than mikans during the six-month mikan marketing season. In addition, the increasing availability of a wide variety of comparably priced fruits, both domestic and imported, will limit future demand for oranges.

At the same time U.S. orange growers, which already provide virtually all of Japan's fresh orange import requirements, could win a significant share of the liberalized Japanese orange juice market. Brazil currently supplies most imported frozen concentrate, but with imports of single-strength orange juice and juice mixtures now allowed, American competitors are expected to have an edge.

For further information, contact Susan MacKnight.

* * * * * *

The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Table 1: Japan's Major Agricultural Imports, 1985-87

	Quantity (in metric tons)			Value (in thousands of dollars)		
	1985	1986	1987	1985	1986	1987
Total	---	---	---	$15,364,026	$17,591,643	$19,641,215
Beef and Veal[1]	150,579	179,104	220,032	464,513	554,011	797,385
Beef and Veal Offals[1]	74,752	88,685	91,297	276,268	386,955	402,445
Lamb and Mutton[1]	79,470	79,300	76,698	112,011	111,180	129,831
Pork[1]	190,221	207,719	280,524	694,999	1,037,421	1,414,324
Chicken[1]	100,455	174,429	195,330	142,443	270,594	323,038
Powdered Milk	104,261	90,970	92,406	75,970	68,431	75,643
Cheese	81,639	81,208	94,181	125,069	134,245	169,269
Wheat	5,509,614	5,619,640	5,476,045	983,202	894,778	791,145
Barley	1,660,947	1,362,716	1,247,542	219,250	148,628	133,675
Corn	14,225,106	14,653,155	16,503,661	1,922,680	1,675,242	1,533,131
Grain Sorghum	4,792,798	4,976,180	3,977,277	576,578	502,812	354,018
Malt	432,484	478,608	539,777	137,532	145,787	172,269
Oranges	111,635	117,300	123,425	91,360	98,105	121,312
Lemons and Limes	113,924	125,825	128,184	100,885	100,522	118,276
Grapefruit	120,804	182,431	204,767	78,729	128,012	151,591
Bananas	680,035	764,565	774,840	302,377	378,614	369,375
Fruit Juices[2]	35,104	29,936	33,206	81,760	61,415	77,502
Frozen Vegetables	155,100	185,194	221,593	138,404	122,080	220,999
Canned Vegetables	90,266	105,537	132,545	59,441	56,130	104,782
Sugar	1,924,144	1,819,358	1,757,938	208,942	276,365	290,535
Molasses	785,487	596,163	507,952	56,754	59,690	47,712
Coffee	247,567	263,783	295,164	751,761	1,137,610	844,199
Cocoa	52,237	55,974	56,686	154,984	157,198	160,384
Peanuts	57,223	56,526	53,106	54,662	51,715	59,323
Soybeans	4,909,505	4,817,220	4,797,208	1,216,727	1,088,268	1,096,013
Rapeseed	1,468,617	1,439,943	1,662,336	440,161	304,492	332,260
Palm Oil	161,292	196,039	212,168	93,984	64,463	76,487
Wine[2]	45,293	33,656	34,657	72,835	76,111	135,397
Whiskey[2]	38,797	43,804	51,629	103,339	147,308	215,957
Brandy[2]	12,490	14,077	15,578	69,615	96,937	139,992
Tobacco	60,563	67,781	88,354	366,920	397,377	496,536
Cigarettes[3]	7,648,246	11,790,759	30,463,200	106,380	183,901	511,373
Natural Rubber	523,124	518,610	552,910	410,539	417,535	514,975
Cotton[4]	680,967	694,979	836,308	1,039,511	811,091	1,121,340
Wool	208,465	191,580	231,960	679,039	627,273	1,021,025
Ramie	12,492	16,237	21,402	50,507	73,932	115,584
Cattle Hides and Skins	204,484	198,717	193,966	315,444	375,629	441,787

[1] Fresh, chilled or frozen.

[2] Quantity in thousands of liters.

[3] Quantity in thousands.

[4] Excludes linters.

Note: The following average annual exchange rates were used to convert the yen trade figures: 1985, Y238.54; 1986, Y168.52; and 1987, Y144.64.

Table 2: Japan's Imports of Corn, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	14,700,900	14,169,620	14,225,106	14,653,155	16,503,661
United States	13,438,302	13,736,803	10,969,579	9,244,260	12,815,743
South Africa	1,030,419	9,674	78,033	1,279,896	1,682,737
China	0	210,469	2,577,801	2,689,018	1,655,239
Argentina	29,808	118,123	466,295	1,276,380	268,147
Feed Corn	11,010,917	10,273,531	10,203,184	10,391,635	11,975,001
United States	10,978,795	9,967,746	8,310,119	7,538,896	10,548,483
China	0	165,221	1,388,557	1,486,779	1,067,135
Argentina	28,778	86,199	410,689	1,190,881	242,945
Corn for Industrial Use	3,689,983	3,896,089	4,021,922	4,261,520	4,528,660
United States	2,459,507	3,769,057	2,659,460	1,705,364	2,267,260
South Africa	1,027,525	9,674	78,033	1,198,507	1,566,299
China	0	45,428	1,189,294	1,202,239	588,104

A

Table 3: Japan's Imports of Grain Sorghum, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	2,956,832	4,477,957	4,792,798	4,976,180	3,977,277
United States	656,076	1,860,473	2,571,415	2,079,090	2,448,056
Argentina	2,189,277	1,613,045	1,265,705	1,577,941	796,427
Australia	103,290	1,000,212	792,826	747,959	524,617

Table 4: Japan's Imports of Soybeans, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	4,994,883	4,515,183	4,909,505	4,817,220	4,797,208
United States	4,646,134	4,180,630	4,345,350	4,331,621	4,099,586
Brazil	23,865	0	220,922	128,089	306,536
China	287,971	307,863	288,572	323,136	290,432

Table 5: Japan's Imports of Wheat, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	5,816,329	5,978,324	5,509,614	5,619,640	5,476,045
United States	3,347,809	3,432,904	3,231,741	3,241,279	3,102,960
Canada	1,485,708	1,484,726	1,234,201	1,376,860	1,372,587
Australia	982,812	1,060,694	1,043,672	1,001,501	1,000,498
Wheat for Food Use	4,549,127	4,708,290	4,326,330	4,584,096	4,391,032
United States	2,735,782	2,816,800	2,719,568	2,801,482	2,602,313
Canada	1,485,708	1,484,726	1,234,201	1,375,600	1,364,768
Australia	327,637	406,764	372,561	407,014	423,951
Wheat for Feed Use	1,267,202	1,270,034	1,183,284	1,035,544	1,085,013
Australia	655,175	653,930	671,111	594,487	576,547
United States	612,027	616,104	512,173	439,797	500,647

Table 6: Japan's Imports of Cotton, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	666,281	707,973	680,967	694,979	836,308
United States	315,905	372,174	275,611	200,819	302,476
China	5,583	23,886	75,240	99,113	179,751
Pakistan	45,690	14,736	75,221	99,015	99,517
Australia	45,265	60,585	91,426	101,516	69,310
U.S.S.R.	42,974	37,981	16,475	46,033	38,277
India	10,993	11,076	7,160	23,260	36,241
Egypt	29,571	30,235	28,172	25,857	26,661
Nicaragua	43,320	50,569	37,464	26,017	23,690
Mexico	28,356	37,673	19,065	21,664	17,990

B

Table 7: Japan's Imports of Tobacco, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	80,062	75,175	60,564	67,781	88,354
United States	51,706	45,772	38,748	43,905	57,448
Malawi	2,929	3,243	2,685	3,525	5,467
Greece	4,684	6,922	2,881	3,903	5,257
Turkey	5,357	5,262	4,773	5,077	5,238

Table 8: Japan's Imports of Fresh, Chilled or Frozen Beef and Veal, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	137,426	145,559	150,579	179,104	220,032
Australia	90,952	91,842	92,936	105,167	121,127
United States	37,711	42,238	46,514	63,389	85,292

Table 9: Japan's Imports of Fresh, Chilled or Frozen Beef and Veal Offals, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	61,953	65,294	74,752	88,685	91,297
United States	50,745	54,540	61,153	74,355	77,422
Australia	5,884	5,529	6,156	7,152	7,877

Table 10: Japan's Imports of Fresh, Chilled or Frozen Pork, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	166,253	195,611	190,221	207,719	280,525
Taiwan	33,084	50,721	67,822	83,880	134,333
Denmark	17,680	75,098	77,449	78,111	92,943
United States	35,410	22,931	11,906	14,731	21,496
Canada	41,836	29,581	21,947	22,437	20,234

Table 11: Japan's Imports of Fresh, Chilled or Frozen Chicken, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Total	100,575	103,726	100,455	174,429	195,330
Thailand	21,353	29,969	35,308	63,598	81,580
United States	64,121	50,827	46,567	75,472	78,100

C

Table 12: Japan's Imports of Fresh Oranges, Lemons and Limes and Grapefruit, 1983-87

(in metric tons)

	1983	1984	1985	1986	1987
Oranges	89,191	89,121	111,635	117,300	123,425
United States	89,048	88,465	110,462	115,968	122,192
Lemons and Limes	119,555	122,639	113,924	125,825	128,184
United States	118,158	121,200	111,901	124,912	127,219
Grapefruit	177,289	157,887	120,804	182,431	204,767
United States	166,635	149,884	111,996	176,771	198,784

Source for Tables 1-12: Ministry of Finance, Japan Exports and Imports: Commodity by Country.

Table 13: Major U.S. Agricultural Exports to Japan, 1985-87

	Quantity (in metric tons)			Value (in thousands of dollars)		
	1985	1986	1987	1985	1986	1987
Total	---	---	---	$5,409,105	$5,140,727	$5,699,832
Corn[1]	10,977,346	9,170,655	12,855,529	1,292,583	866,290	1,022,592
Grain Sorghum[1]	2,425,873	2,144,714	2,352,319	240,862	177,363	180,844
Soybeans[1]	4,375,137	4,225,283	3,820,632	951,680	856,132	788,590
Corn By-products	63,321	79,823	101,481	14,635	20,125	26,740
Alfalfa Meal and Cubes	400,494	555,937	517,669	56,812	79,333	68,261
Dried Beet Pulp	326,175	412,815	361,492	43,871	55,137	44,431
Wheat	3,120,324	3,224,286	2,998,896	468,970	424,330	352,280
Beef and Veal[2]	82,580	111,771	126,342	350,627	473,294	549,916
Beef and Veal Offals[2]	36,408	48,097	54,176	76,138	119,378	140,427
Pork[2]	9,183	12,076	19,514	32,654	52,931	90,493
Chicken[2]	45,019	76,011	77,988	55,144	88,791	90,976
Eggs	---	---	---	17,530	35,343	27,442
Lemons and Limes	109,761	124,301	126,534	77,146	84,224	82,156
Grapefruit	107,686	161,335	202,030	51,506	76,380	95,476
Oranges	108,127	112,671	122,790	73,317	68,869	79,534
Fresh Noncitrus Fruit	20,114	32,148	49,986	33,825	50,248	81,731
Fruit Juices[3]	691,513	599,296	776,261	31,196	28,275	39,120
Raisins	20,263	21,107	18,574	21,969	24,221	24,892
Frozen Vegetables	86,822	122,817	136,903	60,958	85,260	99,436
Canned Vegetables	19,830	29,350	44,410	16,056	23,184	34,873
Almonds	17,020	25,417	15,180	45,342	94,166	69,406
Vegetable Oils	42,816	49,188	41,424	37,113	40,165	33,122
Chocolate Products	1,792	4,516	6,721	9,500	22,027	29,356
Cotton[4]	244,110	190,189	306,832	368,042	245,386	413,710
Tobacco	46,269	37,760	47,798	302,387	232,043	300,766
Whole Cattle Hides[5]	6,824,464	6,624,385	5,929,002	276,077	301,974	332,600
Seeds	26,814	30,077	28,580	38,972	36,729	46,468

[1] Excludes seed.
[2] Fresh, chilled or frozen.
[3] Quantity in hectoliters.
[4] Excludes linters.
[5] Quantity in number of pieces.

Source: Department of Agriculture, Foreign Agricultural Trade of the United States.

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JEI

REPORT

A Two-Part Report: A and B

NO. 42B
November 4, 1988

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Bank Of Japan Reforms Short-Term Financial Markets

By most measures, Japan's monetary policy appears to be working wonderfully. The economy continues on its expansionary path while inflation appears to be firmly in check. But, risking the charge that it was tinkering with a mechanism that showed no signs of being broken, the Bank of Japan has announced changes that both liberalize financial markets and slightly alter the way the bank conducts monetary policy.

The reforms consist of three steps changing short-term financial instruments. The gradual process of introduction began November 1.

- The bank will permit trading in one- to three-week bills; its previous policy limited trading to bills of at least one-month maturity. In addition, BOJ will add these shorter-maturity bills to one- to three-month bills as major instruments of its market operations, which in turn influence the money supply. The bank hopes that using the shorter-maturity bills will give monetary policy more potency.

- The bank will buy and sell commercial paper in its market operations.

- The unsecured call-loan market maximum maturity will be greatly expanded -- to six months from the current three weeks. The availability of this additional financial instrument to borrowers and lenders is said to be in response to foreign banks operating in Japan, major borrowers in the unsecured call-loan market there.

The changes come amid indications that Japanese monetary policy is slowly tightening. While September's 10.6 percent year-to-year increase in the money supply (M_2 plus certificates of deposit) is high by historical standards, it continues a pattern of smaller year-to-year increases shown in recent months (see Table). The high rate of money supply growth has yet to stir up inflation, with the latest year-to-year figures still negative for the wholesale price index and under 1 percent for the consumer price index.

Douglas Ostrom

Money Supply Growth and Inflation

		M_2 + CDs	Overall Wholesale Prices	Consumer Prices
1981		8.9%	1.4%	4.9%
1982		9.2	1.8	2.8
1983		7.4	-2.2	1.9
1984		7.8	-0.3	2.3
1985		8.4	-1.1	2.0
1986		8.7	-9.1	0.6
1987		10.4	-3.7	0.1
1988	January	11.9	-1.0	0.9
	February	12.4	-1.0	0.7
	March	11.8	-1.0	0.7
	April	11.3	-0.7	0.3
	May	11.4	-0.5	0.2
	June	11.1	-0.6	0.2
	July	11.1	-0.9	0.5
	August	10.9	-1.0	0.7
	September(p)	10.6	-0.9	0.6

Sources: Bank of Japan and Management and Coordination Agency.

Update On Japan's Financial Liberalization

Japanese policymakers and businessmen are grappling with financial liberalization measures that could have a fundamental impact on Japan. Not only have the problems highlighted traditional lines of division, but they have

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JEI

REPORT

A Two-Part Report: A and B

NO. 43A

November 11, 1988

JAPAN'S FOREIGN AID POLICY: 1988 UPDATE

Summary

Japan has set its sights on becoming the world's number-one economic aid donor and is expected to achieve this objective in the next year or two. While the strength of the yen has helped, it has been Tokyo's commitment to increased aid that has placed Japan within reach of this goal. Prime Minister Noboru Takeshita announced in June that Tokyo would more than double its aid to a total of $50 billion during the 1988-92 period compared to disbursements during the 1983-87 period. Japan also has taken significant initiatives on debt relief for lesser developed countries in order to improve their development prospects. Despite these expanding efforts, Japan remains below the average among the members of the Organization for Economic Cooperation and Development in terms of the percentage of gross national product it provides for development assistance.

Overview of Postwar Foreign Aid Policy

Since the Second World War Japan has evolved rapidly from a developing country to a developed one. Tokyo's aid policies have evolved as quickly. Four distinct stages of Japan's aid policy have been identified in the postwar period by aid experts William L. Brooks and Robert M. Orr.[1] From the mid-1950s until about 1965, Japanese payments were in the form of war reparations to Asia. Through the late 1960s until the first oil shock in 1973, Tokyo used its aid policy to promote exports and economic interdependence, again almost exclusively in Asia. Japan would extend aid -- but with strings attached. Recipients in less developed countries were obligated to purchase products from Japan rather than being able to choose a lower-priced, comparable product from another country if one were available.

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[1] William L. Brooks and Robert M. Orr Jr., "Japan's Foreign Economic Assistance," Asian Survey, XXV, No. 3 (March 1985), p. 323.

In the late 1970s in response to the two oil crises of that decade, Japan began examining ways to strengthen its relationship with resource-rich developing countries in order to diversify its dependency on a few suppliers and to ensure a continuing supply of vital natural resources. Tokyo began to look beyond Asia and more closely at the troubled Middle East. Japan eventually adopted a goal of 7-1-1-1, meaning 70 percent of its aid should go to Asia with the rest evenly divided among Africa, the Middle East and Central/South America. With by far the most concentrated population of poverty-stricken people in the world, Asia was an appropriate, primary beneficiary, Japan felt.

Japan added a "basic human needs" aspect to its philosophy of aid in the 1980s. Announced in 1981 by then Prime Minister Zenko Suzuki, this orientation was an attempt to shift the emphasis from mostly large-scale projects to smaller projects aimed more directly at the people most in need. Tokyo targeted four key sectors: rural and agricultural development, renewable energy resources, human resource development and small to midsize businesses.[2] It also increased aid for emergency and disaster relief, both for humanitarian reasons and to counter charges that its aid program had been largely export-oriented.

These changing motivations have been accompanied by a substantial increase in the quantity of Japanese foreign assistance as Tokyo adopted three aid-doubling plans. The first, announced in 1977, aimed at doubling that year's disbursements within five years, a target that was exceeded as outlays rose from $1.4 billion in 1977 to $3.3 billion in 1980. A second aid-doubling plan was adopted for the 1981-85 period. However, a slowdown in domestic economic growth and a policy of fiscal austerity -- together with a sharp depreciation of the yen -- prevented Japan from reaching the $21.4 billion target for that five-year period. (Aid disbursements are calculated in dollars at current-year exchange rates by the Organization for Economic Cooperation and Development.) Nonetheless, a third aid-doubling plan was announced in 1985, and Tokyo committed itself to disburse more than $40 billion in the seven-year period from 1986 through 1992. Early in 1987 Japan, whose sharply increasing trade surpluses were drawing growing international criticism, shortened the plan's time span to five years. Ultimately, at the June 1988 Toronto economic summit of the world's leading industrial democracies, Prime Minister Noboru Takeshita announced that the target would be increased from $40 billion to $50 billion.

1987 Official Development Assistance

Preliminary 1987 Organization for Economic Cooperation and Development figures show that net disbursements of official aid from the 18 countries that are members of its Development Assistance Committee totaled $41.2 billion, a decline of 2 percent in real terms from the 1986 level after correcting for

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[2] *Ibid.*, p. 327.

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inflation and exchange rate fluctuations. Accordingly, DAC members' official development assistance as a portion of gross national product dropped from 0.35 percent to 0.34 percent. Total resource flows (which also include development financing from multilateral sources, export credits, direct investment, bank lending and private flows) were approximately $84 billion in 1987, up from $82 billion in 1986 but a decline in real terms of 10.5 percent. This decline can be accounted for partly by massive prepayment of bank debt by South Korea.

In its report on financial resources for developing countries, the OECD singled out five countries as major factors in the 1987 ODA decline. The United States provided a more normal amount of bilateral aid in 1987 to several major recipients in contrast to the abnormally high amounts contributed to them in 1985 and 1986. Italy gave an unusually large amount of money in 1986 due to a bunching of its multilateral contributions. West Germany experienced a slowdown in bilateral lending because of disbursement difficulties and also reduced its contributions to multilateral organizations. Australia cut back on multilateral aid as part of its overall policy of budgetary restraint. And the United Kingdom's problems in disbursing aid to some major recipients prevented part of its fiscal year 1987 assistance from being distributed until the first quarter of 1988.

Japan stood out as one of three countries cited by the OECD for significant aid increases in 1987. Japan is approaching the status of the world's leading economic aid donor, thanks to its commitment to substantial real increases in development assistance and beneficial exchange rate changes. In 1987 its ODA at then current prices and dollar exchange rates jumped 32.3 percent to nearly $7.5 billion (see Table 1). Even after adjustment, Japanese assistance still expanded by an unprecedented 13.5 percent, in part due to Tokyo's decision to make ODA its contribution toward security cooperation (see below). From 1980 to 1986 the real growth in Japan's aid disbursements in dollar terms ran about 3 percent a year.

The other two countries specifically lauded by the OECD were France and Finland. France continued to expand its aid contributions and of the larger DAC nations maintained the highest ratio of ODA to GNP -- 0.51. (France's ratio increases to 0.75 if its aid to overseas territories is included.) Finland posted another substantial aid increase in 1987, this one of 14 percent, which raised its ODA/GNP ratio to 0.50. Belgium also raised its ratio in 1987. But 12 countries saw their ODA/GNP ratios fall, including the United States, where the figure fell from 0.23 to 0.20. Two countries, Sweden and Switzerland, remained at the same ODA/GNP level.

Japan's ODA/GNP share increased from 0.29 percent in 1986 to 0.31 percent last year (see Table 2), although this was still below the DAC average of 0.34 percent and the United Nations' recommended level of 0.7 percent. Only Norway, the Netherlands, Denmark and Sweden have been able to achieve and maintain the U.N. goal of 0.7 percent. (This excludes aid to territories.) Norway remains the sole country to annually contribute more than 1 percent of its GNP, the original suggestion of the ideal ODA level. In 1987 Norway contributed 1.10 percent of its GNP in ODA, down from 1.17 percent in 1986.

The major increase in Japanese ODA in 1987 came in bilateral disbursements, particularly loans. Net lending advanced by 20 percent in real terms, and this expansion accounted for 60 percent of the overall ODA increase. Contributions to multilateral organizations also were up but by a more modest 6 percent in real terms.

Table 1: ODA of Major Donor Countries, 1983-87

(in millions of dollars)

1987 Rank	Country	1983	1984	1985	1986	1987*	Share of Total DAC ODA 1987*
1	United States	$8,081	$8,711	$9,403	$9,564	$8,776	21.3%
2	Japan	3,761	4,319	3,797	5,634	7,453	18.1
3	France**	3,815	3,788	3,995	5,105	6,600	16.0
4	West Germany	3,176	2,782	2,942	3,832	4,433	10.8
5	Italy	n.a.	1,133	1,099	2,403	2,407	5.8
6	Netherlands	1,195	1,268	1,136	1,740	2,904	5.1
7	United Kingdom	1,610	1,418	1,530	1,737	1,887	4.6
DAC Total		27,560	28,686	29,429	36,653	41,219	100.0

*Preliminary.
**Including overseas territories and prefectures.

Source: Organization for Economic Cooperation and Development

Table 2: ODA as Percentage of GNP for DAC Countries, 1983-87

(in millions of dollars)

1987 Rank		1983		1984		1985		1986		1987*		Percent Change 1986-87*
		Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	
1	Norway	$584	1.10%	$543	1.02%	$574	1.01%	$798	1.20%	$891	1.10%	11.7%
2	Netherlands	1,195	0.91	1,268	1.02	1,136	0.91	1,740	1.01	2,094	0.98	20.3
3	Denmark	395	0.73	449	0.85	440	0.80	695	0.89	859	0.88	23.6
4	Sweden	754	0.84	741	0.80	840	0.86	1,090	0.85	1,337	0.85	22.7
5	France**	3,815	0.74	3,788	0.77	3,995	0.78	5,105	0.72	6,600	0.75	29.3
6	Finland	153	0.32	178	0.36	211	0.40	313	0.45	432	0.50	38.1
7	Belgium	480	0.69	433	0.56	440	0.55	549	0.49	692	0.49	26.6
8	Canada	1,429	0.45	1,625	0.50	1,631	0.49	1,695	0.48	1,880	0.46	10.9
9	West Germany	3,176	0.48	2,782	0.45	2,942	0.47	3,832	0.43	4,433	0.39	15.7
10	Australia	753	0.49	777	0.46	749	0.48	752	0.47	618	0.33	-17.8
11	Italy	834	0.24	1,133	0.33	1,098	0.31	2,404	0.40	2,427	0.32	1.0
12	Japan	3,761	0.32	4,319	0.35	3,797	0.29	5,634	0.29	7,453	0.31	32.5
13	Switzerland	320	0.31	286	0.30	302	0.31	422	0.30	532	0.30	26.2
14	United Kingdom	1,610	0.35	1,418	0.33	1,530	0.33	1,750	0.32	1,887	0.28	8.6
15	New Zealand	61	0.28	55	0.25	54	0.25	75	0.30	59	0.21	-9.6
16	Ireland	n.a.	n.a.	35	0.22	39	0.24	62	0.28	51	0.20	-17.8
16	United States	8,081	0.24	8,711	0.24	9,403	0.24	9,564	0.23	8,776	0.20	-8.2
18	Austria	158	0.24	181	0.28	248	0.38	198	0.21	196	0.17	-0.7
DAC Total		27,560	0.35	28,686	0.36	29,429	0.35	36,653	0.35	41,219	0.34	

*Preliminary.
**Including overseas territories and prefectures.

Source: Organization for Economic Cooperation and Development

U.S. aid in contrast grew at a sustained rate during the first half of the 1980s, remained stable in 1986 but fell substantially in 1987 -- 11 percent in real terms. This decline was attributed mainly to a return to a more normal level of grants to a small number of countries that had received unusually large amounts of assistance in 1985 and 1986. In addition, U.S. contributions to multilateral organizations declined by 6 percent in real terms, in part because of reduced donations to U.N. programs.

Criticisms and Alternative Initiatives

Last year's jump in Japan's development assistance has not quelled the long-running internal criticism of its aid program. One perennial problem is that yen loans cannot be acted on quickly due to the different interests and priorities of the four government organizations -- Foreign Affairs, Finance, International Trade and Industry and the Economic Planning Agency -- that formulate aid policies. Moreover, several other ministries and agencies are involved in particular aspects of ODA programs. Since loans, grants and technical cooperation are handled separately by different organizations, it is difficult to coordinate an efficient response to particular situations.

Many aid experts also have called on Japan to improve the quality of its aid through the provision of more grants. Grants, technical cooperation and contributions to multilateral agencies have accounted for 60 percent-plus of Japan's ODA over the last five years (see Appendix), which is below the average for DAC countries.

Another suggestion is that Japan should ease the debt burden of countries to which it has made yen loans. With the yen nearly doubling in value against the dollar over the past three years, many countries are finding it more difficult to pay back the loans. Some experts suggest that the portion of the payment that is due to the yen's appreciation be forgiven.

In May Tokyo decided to lower interest rates on new loans by almost half a percentage point, with the rates now ranging from 1 percent for the least developed countries to 4 percent for middle-income countries. Moreover, this fall the Export-Import Bank of Japan made its first dollar-based loan to Indonesia after Indonesia claimed that it was having trouble with repayments since its largest export earner, oil, is denominated in dollars. Although making a dollar-denominated loan is highly unusual, Tokyo has indicated that this is a possibility if there are extenuating circumstances.

Tokyo has been wary of any general program of debt relief but it has approved a $5.5 billion debt-relief package for 17 developing nations. Finance Minister Kiichi Miyazawa also has proposed that the International Monetary Fund work out new arrangements with debtor countries to ease their repayment burdens (see JEI Report No. 24B, June 24, 1988).

Tokyo believes developing countries should become self-sufficient as soon as possible. This has been one reason Japan has given so many loans rather than grants: it wants to provide countries with incentives to move ahead and does not want to create a "welfare-type" dependency on aid. One shortcoming of this policy is that Japan's previous, oft-cited antipathy toward importing manufactured goods has made it a difficult market for developing countries, which need to earn money from exports to repay debts.

Moreover, Tokyo has long emphasized a partnership approach in its aid policy. This has led it to refrain from initiating or dictating the types of projects it would finance. Instead, it would only respond to specific requests from recipient countries. (Recent hints to Rangoon that future Japanese aid might depend on internal Burmese reforms may represent the beginning of a policy reappraisal.) But this policy, together with Japan's insistence on a detailed feasibility study before supplying funds for a project, has meant that many projects grew out of suggestions by Japanese companies to local governments. Under such circumstances, these companies often have had an inside track on winning the construction and equipment contracts.

Another contentious issue is whether Japan's loans are tied or not. While Tokyo maintains that the loans are untied, Ambassador Ernest Preeg, deputy administrator for the U.S. Agency for International Development, said at a conference in February 1988 that according to a DAC definition of tied aid, Japanese loans are tied. By that definition, if any portion of a loan is tied, then the whole loan is considered tied. Since Japan's loans have in effect required Japanese consultancy, the loans were considered tied according to the DAC terminology. Tokyo decided earlier this year to phase out the consultancy requirement, although exceptions have been made on loans to certain countries, such as China and Indonesia.

An additional common complaint about Tokyo's aid program is that despite the goal of channeling a larger proportion of assistance to regions outside Asia, its geographic focus has not changed. As a case in point, the Overseas Economic Cooperation Fund, which handles all loans, allocated 89.1 percent of its money in FY 1987 to countries in Asia. Africa got the second-highest allocation, yet it received only 5.2 percent of the available funds, followed by Central and South America, with 4.3 percent. Lending to Asia during April 1987-March 1988 was substantially higher than for fiscal year 1986, when it was 77.8 percent, and above the 10-year average of 82.8 percent.

OECF loans are made to foreign governments and to Japanese corporations investing in LDCs. The OECF in 1987 disbursed nearly $4.4 billion to foreign governments and $181 million to Japanese businesses. These funds were used primarily to finance such projects as electric power (24.4 percent) and transportation (21.2 percent) and for commodity loans (19.5 percent). The FY 1987 loans to foreign governments were 99.9 percent untied, according to OECF sources.

At least one of the critics of Japan's aid program has gone beyond complaining and offered suggestions. Keidanren (Japan Federation of Economic Organizations) believes that in order to improve the quality of the aid being given, Japan must alter the implementation of the programs. Keidanren focuses its recommendations on improving coordination efforts among the Japanese organizations handling aid. Keidanren has accused Japan's ODA system, which involves numerous ministries and agencies, of being "complex and inefficient."

Keidanren also has begun a study of how to foster greater export earnings in developing countries. Its proposal is based on the idea that the private sector must make a concerted effort to assist the LDCs through direct investment, which can help to transfer technology and management techniques without incurring new debts. Keidanren's "International Cooperation Project Development and Investment Company" would, however, involve private-sector loans as well as direct investment.

In addition, Keidanren supports the Japanese government's 1987 plan to recycle $30 billion from Japan's current account surplus over a three-year period. (For a description of this plan, see JEI Report No. 41A, October 30, 1987.) The recycled monies not only would help lower Japan's current account surplus but could help alleviate the image Japan acquired in the late 1960s of using aid to benefit its exports.

Finally, Keidanren sees a need to change the role of Japan's Export-Import Bank. The business organization envisions the bank financing more imports from LDCs, which, in turn, would expand the amount of money available to repay their debts.

Technical Cooperation

Money without the wherewithal to turn it toward the most effective task is not money well spent -- or so believe many who increasingly have called for Japan to offer more technical assistance as part of its overall aid program. Especially since Japan has become so highly regarded for its successes in the areas of high technology and in business management, developing countries would like to learn these much-needed skills from it. Through technical cooperation they hope to achieve transfers of technology that will help them earn export income so that they, too, can follow the economic development models of Japan and the "Four Tigers" -- Hong Kong, Taiwan, South Korea and Singapore. Thailand and Malaysia are among the countries that already are clamoring at the door to be the next tigers. Because Japan is an Asian country, the Asian LDCs believe that its experience is best suited to help other Asian nations rise from developing to developed nation (see JEI Report No. 28A, July 22, 1988). While many of these Asian countries suffered under Japanese colonial rule and military occupation before and during World War II and would be critical of a buildup of Japanese military power, they welcome the economic and the technical aid they so desperately need.

Japanese technical cooperation is designed to help develop the human resources of LDCs. This fits in well with the Japanese aid philosophy of developing self-reliance. Through education and training, these new technicians will be able to help create and run an effective development program for their own country. Japan's technical help is carried out on both the public and the private levels, with the Japan International Cooperation Agency responsible for coordinating the government's technical-sharing programs and also in charge of a disaster-relief program. Technical cooperation volunteers are coordinated by the Japan Overseas Cooperation Volunteers.

One of the problems facing technical sharing is the need not just for technology transfers but also for the appropriate technology. Some highly advanced technology may be too complicated to use or maintain in developing countries, which lack trained technicians to run or repair the equipment. Another potential stumbling block is that much of this technology is privately owned and must be transferred through foreign investment or joint ventures. When the project stalls or fails, as happened in the Bohai oil-drilling project -- a joint venture between Japanese companies and China using very advanced technology to extract oil from beneath the sea -- then the technology transfer will be of little value. Thus, some future projects are being viewed more skeptically and as risky by the private sector.

Foreign Aid and Japan's International Role

ODA has become an increasingly important concept for Japan, not simply because of the humanitarian aspects but because Japan has chosen to use ODA as its main contribution toward political and security cooperation. While boosting its defense outlays, Tokyo also has been increasing its foreign aid more rapidly in recent years, partially in response to the sharp criticisms of some U.S. defense experts who have been demanding that Japan contribute more for maintaining international security and stability and stop taking a "free ride."

Congressional committees reexamined the issue of burdensharing again this year. Most of the witnesses on Japanese aid concluded that Japan was indeed contributing or making an effort to contribute a fair portion. The witnesses pointed out that Japan's security zone is usually considered to be the Pacific while the United States has taken on more global responsibilities. The portion that Japan allots to defense and foreign aid is considered appropriate by these defense and foreign policy experts for the size and situation of the Pacific region (see JEI Reports No. 19A, May 13, 1988, and No. 33B, August 26, 1988).

While many in and outside of Congress would like to have Japan increase its ODA expenditures, they overlook the fact that as Japan's international contributions grow, Tokyo's influence also grows. Tokyo would like to have an international role that better reflects its economic status in the world. For instance, Japan is interested in gaining a permanent seat on the United Nations Security Council. This, and other roles of recognized leadership, may not be easy to attain. It is not clear how much clout the United States or other nations will be willing to concede to Japan. Where the United States and Japan have similar agendas, this does not pose too much of a problem. But as Japan becomes more of a world leader, it will develop its own priorities, which in some cases may not coincide with those of the United States.

Conclusion

Tokyo's new aid-doubling plan, announced at the economic summit in Toronto, has placed the spotlight on Japan's aid program. As international pressures continue to push Japan to take a role in world affairs more commensurate with its economic strength, Japan will need to develop ever more effective aid strategies. Increasingly Tokyo will be pressed to give or withhold aid for strategic purposes and, thus, will need to develop a more clearly delineated foreign policy.

Japan will need to continue not only the quantitative increases in its aid, which have made it the leading donor to 25 countries, but also the qualitative improvements, as Foreign Minister Sousuke Uno has pointed out. A related area, in which Tokyo is poised to take initiatives independent of the United States, is Third World debt relief. However, the proposal by Finance Minister Miyazawa to help alleviate the debt situation, especially in Latin America, has not been warmly received by the United States, which traditionally has considered this to be its area of expertise and influence (see JEI Report No. 38B, October 7, 1988). As Japan assumes more of the responsibilities and leadership associated with its economic position, there is sure to be continued critical evaluation of its programs and its motives.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Table 1: Net Flow of Financial Resources from Japan to Developing Countries and Multilateral Agencies, 1983-87

(in millions of dollars)

Type of Transaction	1983	1984	1985	1986	1987	Percent Change 1986-87
Official Development Assistance	$3,761	$4,319	$3,797	$5,634	$7,453	32.3%
Change Over Previous Year	24.4%	14.8%	-12.1%	48.4%	32.3%	
ODA/GNP Ratio	0.33%	0.34%	0.29%	0.29%	0.31%	
Bilateral Assistance	2,425	2,427	2,557	3,846	5,246	36.4%
Grants	993	1,064	1,185	1,703	2,219	30.3%
Capital Grant Assistance	535	543	636	855	1,154	35.0%
Technical Assistance	458	521	549	849	1,065	25.4%
Development Lending and Capital	1,432	1,363	1,372	2,143	3,027	41.3%
Grants, Capital Subscription and Loans to Multilateral Agencies	1,336	1,891	1,240	1,788	2,207	23.4%

Notes: 1. Net disbursement basis.
2. Due to rounding, the figures do not necessarily add up to the totals.

Source: Ministry of Foreign Affairs

A

Table 2: Japan's Bilateral ODA by Region, 1983-87

(in millions of dollars)

Year	Total	Asia	Middle East	Africa	Latin America	Europe	Oceania	Unallocable
1983	$2,425 (100.0%)	$1,614 (66.5%)	$150 (6.2%)	$287 (11.8%)	$241 (9.9%)	$23 (1.0%)	$18 (0.7%)	$93 (3.8%)
1984	$2,427 (100.0%)	$1,594 (65.7%)	$249 (10.3%)	$211 (8.7%)	$229 (9.4%)	$1 (0.0%)	$25 (1.0%)	$117 (4.8%)
1985	$2,557 (100.0%)	$1,732 (67.8%)	$201 (7.9%)	$252 (9.9%)	$225 (8.8%)	$1 (0.0%)	$24 (0.9%)	$122 (4.8%)
1986	$3,846 (100.0%)	$2,494 (64.8%)	$340 (8.8%)	$418 (10.9%)	$317 (8.2%)	$2 (0.1%)	$55 (1.4%)	$221 (5.7%)
1987	$5,246 (100.0%)	$3,416 (65.1%)	$526 (10.0%)	516 (9.8%)	$418 (8.0%)	$2 (0.0%)	$68 (1.3%)	$302 (5.8%)

Note: Net disbursement basis.

Source: Ministry of Foreign Affairs

Table 3: Major Recipients of Japan's ODA, 1983-87

(in millions of dollars)

1983		1984		1985		1986		1987	
Country	Amount	Country	Amount	Country	Amount	Country	Amount	Country	Amount
China	$350	China	$389	China	$386	China	$497	Indonesia	$707
Thailand	248	Malaysia	245	Thailand	264	Philippines	438	China	553
Indonesia	236	Thailand	232	Philippines	240	Thailand	260	Philippines	379
Philippines	147	Indonesia	168	Indonesia	161	Bangladesh	248	Bangladesh	334
India	130	Philippines	160	Burma	154	Burma	244	India	304
Burma	114	Bangladesh	123	Malaysia	126	India	227	Thailand	303
Bangladesh	104	Burma	95	Bangladesh	121	Indonesia	161	Malaysia	276
Malaysia	92	Egypt	81	Pakistan	93	Pakistan	152	Burma	172
Sri Lanka	73	Pakistan	67	Sri Lanka	84	Sri Lanka	127	Turkey	162
Pakistan	73	Sri Lanka	64	Egypt	73	Egypt	126	Pakistan	127

Note: Net disbursement basis.

Source: Ministry of Foreign Affairs

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Table 4: Major Recipients of ODA, 1986

(percent of total ODA by donor country)

Japan		United States		All DAC Countries	
China	8.2%	Israel	19.1%	Israel	5.7%
Philippines	7.5	Egypt	12.8	Egypt	4.8
Indonesia	5.8	El Salvador	2.8	India	3.0
Thailand	5.7	Philippines	2.6	Indonesia	2.4
Burma	4.0	Sudan	2.4	Philippines	2.1
Bangladesh	3.6	Pakistan	2.3	Bangladesh	2.1
India	3.4	Pacific Islands	1.8	Pakistan	1.8
Pakistan	2.7	Honduras	1.7	China	1.8
Egypt	2.3	Bangladesh	1.6	Sudan	1.6
Malaysia	2.2	Costa Rica	1.6	Tanzania	1.4
Sri Lanka	2.1	India	1.5	Thailand	1.3
Korea	1.9	Peru	1.4	Ethiopia	1.2
Nepal	1.1	Ethiopia	1.2	Reunion	1.1
Turkey	1.0	Jamaica	1.1	Sri Lanka	1.1
Brazil	0.9	Indonesia	1.0	Kenya	1.1
Mexico	0.9	Turkey	1.0	Morocco	1.0
Zambia	0.9	Dominican Republic	1.0	Turkey	0.9
Kenya	0.8	Portugal	0.9	El Salvador	0.9
Tanzania	0.6	Bolivia	0.9	Burma	0.9
Peru	0.6	Morocco	0.8	Martinique	0.9
Paraguay	0.6	Sri Lanka	0.8	Zambia	0.8
Sudan	0.5	Guatemala	0.7	Peru	0.8
Jordan	0.5	Haiti	0.7	Mozambique	0.8
Honduras	0.5	Somalia	0.7	Senegal	0.8
Ghana	0.5	Niger	0.6	Zaire	0.8
Subtotal	59.1	Subtotal	63.0	Subtotal	40.9
Multilateral	28.1	Multilateral	15.7	Multilateral	25.3
Unallocated	3.6	Unallocated	10.7	Unallocated	9.9
Total ODA*	$5,386	Total ODA*	$10,147	Total ODA*	$35,470

*In millions of dollars.

Source: Organization for Economic Cooperation and Development, Development Cooperation: 1987 Report

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JEI REPORT

A Two-Part Report: A and B

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Economic Statistics Point Toward Growth In Japan

Not every indicator is showing full speed ahead, but forward motion seems to have resumed for the Japanese economy. That appears to be the consensus prior to the release next month of the third-quarter gross national product statistics. The April-June 1988 GNP data suggested the economy slipped a bit as growth declined at a 3.9 percent annual rate (see JEI Report No. 37B, September 30, 1988). But the drop, partly a result of quirks in the calendar, increasingly looks like an aberration that is being overwhelmed by other developments.

The pessimists, however, find ample evidence to bolster their case. The second-quarter drop in growth was foreshadowed by leading indicator data designed to predict trends. The data gave a reading just below the boom-or-bust threshold of 50. The latest figures, 36.4 for July and 40 for August, are even

Trade Data Show Mixed Results

Japan's trade and current account pictures are getting murkier. While most of the past two years have seen a slow if steady decline in Japan's huge current account and trade surpluses, that result is no longer predictable. The latest statistics, for the June-September quarter, show one surplus smaller and the other larger than a year earlier.

The trade surplus (both exports and imports measured free on board) rose a scant 1.4 percent from a year earlier on a dollar basis (see Table 1). Although imports surged 27.2 percent compared to a 16.5 percent rise in exports, overseas sales increased from a larger base than purchases from abroad, thus widening the gap. Cheaper oil, which reduces the import bill, slowed the growth of imports and contributed to the increase in the surplus. The depreciation of the dollar over the past year also played a role, artificially swelling the value of dollar-denominated exports, imports and the surplus. In contrast to its value in dollars, the trade surplus as measured in yen declined 7.7 percent.

The more comprehensive measure, the current account surplus, was down 10 percent in dollar terms and 17.9 percent in yen terms from the July-September 1987 period. The effects of the marginally larger dollar-denominated trade surplus were overwhelmed by a surge in the services deficit, up 114.5 percent in dollars from a year earlier. Within the services account, higher net foreign investment income, a result of past investment abroad, was swamped by a widening deficit in overseas travel expenditures.

Japan's net investment income is likely to keep rising, if figures on capital flows are any indication. Japan's net long-term capital outflow increased to the highest figure since the second quarter of 1987, in part a consequence of greater confidence among Japanese investors about the short-term prospects for the dollar (see Table 2). With the U.S. currency roughly stable against the yen during the quarter, investors had reason to believe that the advantage of higher returns on dollar-denominated assets overseas would not be wiped out by exchange rate movements. Japanese investors tiptoed back into foreign stock markets, making a net addition to their holdings for the first time this year. While the statistics are imprecise, the United States is believed to account for the lion's share of Japanese foreign investment in both bonds and stocks.

While many Japanese were adding to their holdings abroad, foreigners were reducing their positions in Japan, which also increased the long-term capital outflow. Taking their profits from the run-up in Japanese equity prices, foreigners reduced their stockholdings by $4.9 billion, returning to a two-year-old pattern of net selling of Japanese equities. This year's first quarter had been the single exception to this trend. In addition, bond holdings plummeted $7.7 billion for the latest quarter.

Net capital flows are a factor in exchange rates, with larger outflows creating a supply of yen and a demand for dollars, thereby strengthening the American currency. The recent data suggest that short-term capital, which showed an all-time-high inflow of $10.7 billion in the July-September quarter, is pulling in the opposite direction from long-term capital. Furthermore, the demand for dollars created as American investors reduce their positions in

Table 1: Japan's Balance of Payments

(in millions of dollars)

	Trade Balance	Exports (f.o.b.)	Imports (f.o.b.)	Services (net)	Current Account Balance	Long-Term Capital (net)
1983	$31,454	$145,468	$114,014	$-9,106	$20,799	$-17,700
1984	44,257	168,290	124,033	-7,747	35,003	-49,651
1985	55,986	174,015	118,029	-5,165	49,169	-64,542
1986	92,827	205,591	112,764	-4,932	85,845	-131,461
1987	96,386	224,605	128,219	-5,702	87,015	-136,532
1986: I	14,552	44,813	30,261	-1,145	12,668	-18,990
1986: II	23,922	52,270	28,348	-374	23,099	-28,882
1986: III	26,793	53,859	27,066	-1,922	24,413	-38,410
1986: IV	27,560	54,649	27,089	-1,491	25,665	-45,179
1987: I	23,373	50,515	27,142	-1,348	20,962	-32,209
1987: II	25,038	55,823	30,785	-1,601	22,762	-44,365
1987: III	23,585	56,600	33,015	-1,757	21,189	-22,023
1987: IV	24,390	61,667	37,277	-996	22,102	-37,935
1988: I	21,021	59,345	38,324	-1,337	18,421	-15,142
1988: II	22,448	63,559	41,111	-2,882	18,567	-36,556
1988: III(p)	23,914	65,925	42,011	-3,769	19,076	-41,963

Table 2: Japan's Net Purchases of Foreign Securities

(in millions of dollars)

	Bonds			Stocks		
	Purchases	Sales	Net	Purchases	Sales	Net
1983	$22,905	$10,400	$12,505	$2,106	$1,445	$661
1984	56,348	29,575	26,773	1,570	1,519	51
1985	291,338	237,859	53,479	5,484	4,489	995
1986	1,346,989	1,253,965	93,024	20,917	13,869	7,048
1987	1,273,829	1,200,944	72,885	70,936	54,062	16,874
1986: I	251,591	234,330	17,261	2,793	1,[illegible]1	832
1986: II	368,271	343,467	24,804	3,717	2,[illegible]0	1,457
1986: III	357,331	330,980	26,351	6,481	4,473	2,008
1986: IV	369,796	345,188	24,608	7,926	5,175	2,751
1987: I	377,850	354,648	23,202	13,925	9,386	4,539
1987: II	341,880	316,585	25,295	15,277	9,797	5,480
1987: III	325,517	308,421	17,096	21,882	18,370	3,512
1987: IV	228,582	221,290	7,292	19,852	16,509	3,343
1988: I	332,047	318,877	13,170	18,901	19,467	-566
1988: II	401,293	374,371	26,922	20,518	20,643	-125
1988: III(p)	333,473	307,635	25,838	25,166	23,424	1,742

Japan is unlikely to continue indefinitely. All this suggests that portfolio adjustments are less positive for the dollar than the long-term capital outflow figure by itself indicates.

The capital flow and the trade figures are close to mirror images: capital flows are the means by which foreign deficits with Japan are financed. Furthermore, dollar-sustaining capital flows work at cross-purposes with efforts to reduce the trade surplus through increased Japanese imports and reduced exports. The larger the capital flow, the more substantial will be the safety net under the dollar and the less likely that significant movement will occur in the trade figures. But if Japanese investors become reluctant to invest abroad, the dollar would either decline or central banks would have to replace the private flow of funds in the absence of a major improvement in the trade figures. Washington and Tokyo seem to view both these possibilities as unattractive, in part because either alternative could undermine investor confidence further, forcing still more central bank intervention or exchange rate changes.

Officials on both sides of the Pacific clearly are hoping that the yen's past appreciation will reduce Japan's current account surplus before Japanese and other investors pull the safety net from under the dollar. Given the precarious state of progress on the Japanese surplus, this high wire act could get even more exciting in the coming months.

Douglas Ostrom

Diet Works On Tax Reform As Scandal Widens

Despite repeated flare-ups of a stock scandal involving aides to politicians (see JEI Report No. 27B, July 15, 1988), the ruling Liberal Democratic Party finally has won the participation of opposition parties to debate a controversial package of tax reform bills in the lower house of the Diet (see JEI Report No. 29B, July 29, 1988). The Recruit Cosmos Co., Ltd. stock scandal is waxing anew, however, forcing an opposition Diet member to resign and reaching out to taint the Japanese bureaucracy. Nevertheless, the general consensus in Japan is that Prime Minister Noboru Takeshita will win approval of the tax reform measures.

The LDP had planned to hold the final public hearing on the tax reform package in the lower house November 4, but this was scratched after the opposition parties staged another boycott of Diet business, angered that the LDP had refused to agree to a request that three persons involved in the Recruit Cosmos scandal testify under oath before a lower house committee investigating the affair. After several days of talks, the LDP agreed November 2 to produce the witnesses, and the opposition parties agreed to set a date for the final hearing on the tax bills.

No sooner had this deal been made than the Japanese press reported that opposition party members also were involved in the Recruit Cosmos affair. Two Democratic Socialist Party dietmen, one Komeito representative and one Japan Socialist Party member allegedly profited directly or indirectly from the sale

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JAPAN PONDERS FREE TRADE PACTS: BUILDING BLOCKS OR ROAD BLOCKS?

Summary

Free trade is an idea advocated by most industrialized nations, including Japan, although the current global trading regime is far from that ideal. As talks proceed on a new round of multilateral trade liberalization under the General Agreement on Tariffs and Trade, two other events have given new life to the dream of free trade. The European Community's plan to eliminate the remaining intermember barriers to trade beginning in 1992 and the U.S.-Canada Free Trade Agreement have generated both hope and concern with respect to global free trade. Since the EC and the United States account for a large share of global and Japanese trade, Japan is naturally interested in these developments. Not only have these two events provoked policy responses from Japanese officials and businessmen but they have stimulated an intellectual debate as well.

Introduction

The proposition that free trade yields benefits has been the basis of America's postwar trade policy and a position that most other industrialized nations have adopted. Several rounds of tariff reductions negotiated under the auspices of the General Agreement on Tariffs and Trade have led to a growing volume of international trade, which has raised standards of living and promoted industrial efficiency. Notable exceptions to free trade still exist, however. Trade in agricultural products, textiles, steel, cars and many other consumer goods and services are subject to controls imposed by governments unilaterally, multilaterally or "voluntarily."

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When an upsurge of economic nationalism caused by large trade imbalances in the 1980s combined with a realignment of the relative economic strengths of the United States, Japan and West Germany, pressures increased for managed trade, the regulation of commerce through nonmarket mechanisms. These pressures actually have been magnified by the success of previous GATT-negotiated tariff reductions. As average rates fell, tariffs lost their deterrent value. Governments that feel vulnerable to dumping or other "unfair" practices of their trading partners have sought to supplement statutory tariff structures. Antidumping and other trade laws thus have come into wider use -- the Omnibus Trade and Competitiveness Act of 1988, for example. Since these laws are developed and applied unilaterally, other countries feel the need to respond with similar rules, potentially impinging on free trade.

To counteract this trend, GATT's 96 members initiated in 1986 a new round of negotiations, known as the Uruguay Round, to broaden the scope of the international trade organization's liberalizing influence to areas such as agricultural trade, financial transactions and intellectual property rights. Progress is being made, but its ultimate success is still in doubt (negotiations alone could take up to 10 years). Even if successful, it will be many years before the full impact of any agreement is felt.

Partly out of frustration with GATT's lengthy process, the Reagan administration has negotiated two bilateral free trade agreements: one with Israel in 1985 and the other with Canada, an as-yet unratified agreement finalized in October 1987. The agreements are seen as carrot and stick tools vis-a-vis the GATT process. On the one hand, they show that free trade pacts covering new or contentious areas can be negotiated, serving as a model for the GATT talks. On the other hand, they serve as a warning to GATT members that the United States is willing and able to pursue bilateral liberalization if the multilateral process stalls. While similar in impact, the European Community's plans for 1992 arise from an entirely different background.

Worked out in 1985, the EC plans are a natural evolution of the common market concept. Having already eliminated tariffs and quotas among members and established a common external tariff structure, the community is addressing the remaining barriers to trade and the movement of labor and capital. Efforts include harmonizing financial regulations as well as industrial, agricultural and health standards and certification requirements. Other impediments to the free flow of goods, such as customs clearance procedures, also are targeted. Regulation of services, such as airlines and communications, will be reduced and unified. Licenses or accreditation for professional services will be recognized within the community on a reciprocal basis. If the process is successful (1992 is only the start), the EC will become the largest single market in the world with a population of 320 million and a gross domestic product of around $4.4 trillion, according to the Organization for Economic Cooperation and Development.

Japan cannot but take notice of these developments. Trade with the United States and Canada accounts for one-fourth to one-third of its total exports and imports (see Table). While transactions with North America as a

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share of the total have declined slightly since 1986, trade with the European Community is on the upswing. Japanese foreign direct investment in both areas also is surging (see JEI Report No. 23B, June 17, 1988), just as financial linkages are expanding among the London, New York and Tokyo markets (see JEI Report No. 35A, September 16, 1988). It comes as no surprise, therefore, that Japanese businessmen, politicians and bureaucrats are fashioning responses to proposed changes in these key markets.

Japan's Trade with the United States, Canada and the European Community

(share of Japan's total exports or imports in yen terms)

	Canada		United States		European Community	
Year	Exports	Imports	Exports	Imports	Exports	Imports
1980	1.9%	3.4%	24.2%	17.4%	12.8%	5.6%
1981	2.2	3.1	25.5	17.6	12.4	6.0
1982	2.1	3.4	26.2	18.3	12.3	5.7
1983	2.5	3.5	29.2	19.5	12.6	6.4
1984	2.5	3.6	35.3	19.7	11.4	6.8
1985	2.6	3.7	37.1	20.0	11.4	6.8
1986	2.6	3.8	38.4	22.8	14.7	10.9
1987	2.5	4.1	36.5	21.1	16.5	11.8
1988: I-III	2.5	4.5	33.5	22.4	18.1	12.8

Source: Ministry of Finance.

European Integration in 1992

The EC's plans for 1992 have caused the most concern in Japan, in part because many policies with regard to non-EC members have yet to be clarified and because bilateral relations have been focused narrowly on trade. Japan-EC relations have always ranked well behind both sides' ties with the United States, although the relative increase in bilateral trade is beginning to change this. Both the United States and Japan are concerned that the EC will try to ensure that virtually all the benefits of integration accrue to European firms by establishing special rules for foreign firms.

Trade Policy - More than a dozen Japanese exports currently are monitored by agreement, including cars, videocassette recorders and other consumer and industrial goods. In addition, some EC members have individual restrictions. France, for example, limits Japanese car sales to 3 percent of its market. Italy has even tighter quantitative restrictions on imports of Japanese vehicles. Integration should erase these various national policies and replace them with a single regime. Tokyo has expressed concern that the replacement will be worse than what currently exists, as EC members most at risk have argued strongly for stringent common controls on Japanese-made imports. At the least, the EC is likely to impose what it calls transitional measures to moderate the impact of any changes. Until the community makes up its collective mind on exactly what it will do (cars could prove particularly difficult), Tokyo can only reiterate its support for free trade.

The EC's antidumping rules, which have been a source of friction in the past, also pose a maze for integration changes. Tokyo has complained about the EC's methods of determining if dumping has occurred and about the application of antidumping penalties to goods assembled in the community with imported parts. This crackdown on what the EC terms "screwdriver" plants has implications beyond trade in parts and subassemblies since it could have a chilling effect on foreign direct investment in the community, something the EC has been trying to promote.

Direct Investment - In addition to the dumping issue, a current dispute between Paris and London over cars produced in Britain by Nissan Motor Co., Ltd. has cast an even darker shadow on Japan's foreign direct investment in Europe. The vehicles currently have a British content of 60 percent, and Nissan officials predict this will rise to 70 percent in the near future. Nissan wants to ship some of the British-built vehicles to France, but Paris is insisting that the local content must reach 80 percent before it will classify the cars as British and exempt them from its quotas on Japanese cars. London is furious since recent EC practice has been to use 60 percent local content as the dividing line between domestic and imported goods. France points out that the language used in previous instances only states that a "substantial portion" must be locally procured. Paris therefore feels it has leeway to determine what is "substantial." The EC Commission is likely to come down on Britain's side, but this still leaves the question without a definitive answer.

Japanese businessmen are voicing their frustration with the EC's policies. On the one hand, foreign direct investment is welcome. On the other hand, stiff antidumping penalties and local content requirements make it very difficult to operate. Japanese firms have consistently stated their commitment to increasing local procurement of parts as quickly as possible and to investing in Europe for the long term.

Even if the EC continues to complicate the foreign direct investment issue leading up to 1992, it is unlikely that the flow of Japanese investment will decline for several reasons. First, the EC has hinted strongly that foreign firms with a presence in Europe prior to 1992 will receive equal treatment with domestic companies. Many Japanese businesses, especially medium-sized ones, therefore are rushing to establish a beachhead in advance of 1992. There may be some contention over what constitutes a sufficient presence, but so far the EC has set no guidelines. Second, the appreciation of the yen has made overseas production a key part of Japanese business plans. Local production can offer other benefits besides relatively lower costs: the response time is faster when local tastes change and services, such as just-in-time delivery, are more easily offered. Direct investment in the EC is not a panacea, however, particularly when it comes to financial services.

Services - Alarm bells went off in Washington and Tokyo when the EC began using the term "reciprocity" in regard to the activities of foreign firms within the community after 1992. The statement seemed to imply that foreign access or operations would somehow be restricted unless foreign governments provide EC firms with the same freedom of action in their markets as foreign firms would have in Europe. Reciprocity is of particular concern to Japan and the United States in regard to financial services since both countries -- contrary to European practice -- separate commercial from investment banking in their domestic financial markets. The obvious worry is that multinational Japanese and American financial firms will force Tokyo and Washington to rashly deregulate their domestic markets in order to assure full access to Europe's financial arena.

The policy is so vague that member governments have protested to the European Commission that more clarity is needed if Europe's money markets, which have grown strong thanks to comparatively few restrictions, are to prosper. After reviewing the current reciprocity proposal contained in a draft of the Second Banking Coordination Directive, British and West German finance ministers led a campaign to ensure that the directive will be GATT-compatible. The ministers want "mutual availability of opportunities" that also will conform to the current round of GATT negotiations on financial services. It is uncertain, however, whether acceptable language can be found before the informal deadline of the end of this year. If not, then the mid-1989 date for adopting the directive will have to be pushed back, and uncertainty will continue to cloud the picture.

Japanese firms in other services fields also are examining new strategies to cope with the effects of integration, although the uncertainty factor complicates planning. Shipping companies are accelerating efforts already under way to link up with European partners and form new groupings. Japanese airlines, still struggling under intense domestic regulation, are giving a lower priority to the situation. Insurance and other business support companies are investigating the costs and the requirements of setting up shop in Europe, but no stampede is developing.

In sum, the Japanese response to 1992 is to get a foot in the door through direct investment. Participation in the merger and acquisition boom that is sweeping the continent also is a possibility. At the official level, Tokyo will continue to apply pressure along with the United States to forestall the creation of "fortress Europe." The final outcome of integration is not at all clear, given the contradictory statements by EC officials on keeping the market open while trying to assure a "balance of benefits" between foreign and domestic companies.

U.S.-Canada Free Trade Agreement

In comparison to the frenzied Japanese response to 1992, Japan's reaction to the U.S.-Canada Free Trade Agreement is almost nonchalant. This is mainly because the pact, which still must be ratified by Canada, does not contain major provisions directed specifically at foreign companies; it does not seek assurances of reciprocity from foreign firms that might benefit from the agreement. Instead, the agreement seeks to guarantee access to each other's market, indirectly granting the same assurance to foreign firms through their American and Canadian subsidiaries. Because both the United States and Canada adhere to the philosophy of national treatment for foreign firms in practically all areas of regulation and because the trade pact would not change this, Japan feels confident that its access to the two countries would not be reduced.

In fact, most Japanese businesses are confident that they would benefit to some degree from the pact. Exports of capital goods may rise as U.S. and Canadian firms gear up to service the enlarged market. Financial firms, which already have a firm foothold in the United States, would benefit from improved access to the Canadian market. Japanese direct investment would receive a boost from the pact, just as American and Canadian cross investment is expected to benefit from the more stable economic environment.

There could be some small drawbacks to the pact for Japan, however. The most significant one would end the Canadian practice of rebating import duties paid on cars and parts that are re-exported to the United States. If the pact is approved, Canada must end duty remissions on exports to the United States on January 1, 1989 and gradually phase out all other rebate programs. Given the growing Japanese automotive manufacturing base in the United States, this is not of great concern to the Japanese.

Since many Japanese manufacturing and service firms already have a presence in the United States or Canada, there is no direct investment frenzy as there is toward Europe. Since the U.S.-Canada FTA does not seek to win concessions from foreigners in exchange for access to the combined market and because its terms are clear and unambiguous, Japan feels confident that the FTA would lead to a net gain for the United States, Canada and itself. Japanese businesses see little need to change strategies for penetrating the U.S. or Canadian markets, and Tokyo sees no reason to oppose the agreement. On the contrary, the pact has generated interest in a U.S.-Japan free trade agreement and revitalized the concept of a Pacific Basin trade zone.

A U.S.-Japan Free Trade Pact?

Beyond the immediate stimulus of the EC's 1992 integration plan and the U.S.-Canada FTA, a number of other forces are promoting debate on a U.S.-Japan FTA. It is clear to both sides that trade frictions are never going to disappear and that they may increase as the level of technological competition between the two nations intensifies and as governments focus on politically sensitive areas such as agricultural trade. Although no trade issue presents a major threat to smooth overall bilateral relations at the moment, there is no guarantee that this will last. A bilateral FTA promises to remove major irritants and create a more stable and positive economic environment by guaranteeing both sides mutual access to each other's market and ameliorating the capricious impact of trade laws.

Even in the past when a trade dispute was settled, the solution was often politically acceptable but economically less than optimal. Japanese policymakers and businessmen are very interested in the institutions set up to manage the U.S.-Canada pact: the Canada-United States Trade Commission and the joint dispute settlement panels that will arbitrate problems the commission cannot solve. If these institutions prove to be apolitical and capable of handling tough trade issues, the Japanese probably would welcome inclusion of similar institutions as part of a deal with the United States.

From an overall standpoint, both the United States and Japan see a need to restructure the bilateral relationship to reflect a new balance of economic power. The old paradigm of U.S. demand/Japanese response often has added to tensions, a trend that easily could increase as Japan asserts itself in global affairs. A bilateral, or better still, a Pacific free trade zone could serve as a solid foundation on which to build a new relationship.

One indicator of how seriously the idea is being taken is the number of studies and proposals it has generated. So far, one U.S. government agency has studied the matter, and one piece of legislation has been proposed. On the other side of the Pacific, three agencies have launched formal studies of a free trade arrangement and two others are discussing it informally.

United States - At the request of the Senate Finance Committee, the International Trade Commission issued an overview of the pros and the cons of a bilateral FTA (see JEI Report No. 37B, September 30, 1988). The report, which was assembled in only three months, takes a "kitchen sink" approach by listing many possibilities and alternatives. Briefly, the report lists the following as the major U.S. advantages of a bilateral free trade area:

- Improvement of the political atmosphere for negotiations with Japan. It would give formal recognition to the already substantial economic relationship between the United States and Japan. It would elevate U.S.-Japan trade policy to a status equal to military and political concerns. It also would improve the trade atmosphere because the forum, goals and timetables would be mutually agreed on. And it would create less confrontational and regular dispute settlement mechanisms to resolve problems prior to the U.S. side resorting to Section 301 of the 1974 Trade Act or either side tapping the GATT resolution process.

- Enhancement of the U.S. ability to achieve trade objectives. The United States would be compelled to reassess its trade goals with Japan and establish clear priorities. An FTA would provide a better mechanism for identifying and addressing remaining systemic Japanese trade barriers, such as the distribution system. It would enhance U.S. leverage by providing a major incentive for the Japanese to cooperate. It also would provide a forum for developing rules in areas such as services, investment and intellectual property. An FTA would be a more appropriate method to deal with Japanese domestic policies that have an impact on trade -- industrial policy, antimonopoly laws and so on -- than the current emphasis on "fair" trade. And it would help Tokyo and the Japanese people to focus on imports and market liberalization.

- Increased economic benefits. An FTA would remove the remaining tariff barriers and force an evaluation of the remaining nontariff barriers against the yardstick of free trade. It would create new trade, increase economic efficiency and lower consumer prices. It also would encourage U.S. firms to penetrate the Japanese market.

- Support for other U.S. trade objectives. A bilateral arrangement would stimulate talks in the Uruguay Round by "signaling U.S. willingness to pursue bilateral options unless there are meaningful results." It would be a ready second-best alternative if the GATT talks fail. It would stimulate market opening measures by other nations seeking assured access to the U.S. market. And it would provide leverage to deal with potential damage to U.S. commercial interests from the EC's 1992 integration plan.

The report also enumerates the following disadvantages:

- Worsening of the bilateral relationship. A FTA could raise false expectations, increase the political stakes in negotiations and force U.S. negotiators to strike deals when it is not in the best interest of the United States to do so. If the pact were to fail, it could have major negative repercussions on overall U.S.-Japan ties. It may not eliminate the need for U.S. pressure tactics since sensitive political issues can be solved in Japan only at the highest level.

- Failure to produce meaningful market access to Japan. The accord may generate little change in trade because: Japan's tariffs on manufactured goods are already among the world's lowest and Japan retains few quotas or other official barriers to imports; it may not be able to address such things as industrial targeting and the distribution system; and it also may be unable to influence informal problems such as a "buy Japan" mentality. Negotiating the FTA may divert limited U.S. negotiating resources and take a substantial period of time to complete.

- Imposition of economic costs. The pact may force major adjustments by industries such as steel, textiles, cars and agriculture. It could cause a worsening of the bilateral trade imbalance. It could result in trade diversion. Japanese products may become cheaper than similar products from other countries thanks to the lack of duties even when the other foreign producer may in fact be the lower cost supplier. Since the United States would not collect duties on either Japanese imports or the imports for which they substitute, and since the more efficient producer would not gain, an overall economic loss to the United States and the world would accrue.

- Frustration of overall U.S. trade objectives. The pact may stall the GATT process in which the United States and Japan are key players. U.S. participation in more bilateral agreements may weaken the multilateral framework of the GATT. It also may weaken the U.S. hand in multilateral trade talks with other nations that enter into exclusive bilateral trade pacts. It could encourage the EC to adopt a fortress mentality. It also could harm relations with other Asian nations. And it could eliminate the option of bringing multilateral pressure to bear on Japanese trade policies.

Finally, the ITC lists four alternatives to an FTA: developing a series of broad economic understandings; managing the bilateral relationship through numerical goals; developing new institutions to handle bilateral issues; and trying other methods of negotiation or pursuing other goals in trade talks. In sum, the commission sees many theoretical and practical problems in implementing a bilateral FTA and no assurance that it would yield net benefits.

Senator Max Baucus (D, Mont.) actually jumped the gun on the ITC in submitting a comprehensive U.S.-Japan economic accord for congressional consideration August 3 (see JEI Report No. 32B, August 19, 1988). Pointing to the scale of the bilateral trade imbalance, the importance of particular products to economic and national security, and the "disarray" of U.S. trade policy, Mr. Baucus advocated a sweeping change in the bilateral relationship based on four ideas:

- Negotiated bilateral trade targets. "We must pull away from a process-oriented trade policy that attempts to force the rest of the world to accept the U.S. model of a free market, and instead pursue a policy that aims to achieve concrete results," he asserted. Trade targets should both encourage trade and eliminate the imbalance over several years.

- Rules of the road. Discussions on trade practices, such as predatory dumping and Japanese barriers to Third World imports, must be addressed individually.

- Macroeconomic coordination. Mr. Baucus feels that coordination through the Group of Seven major industrialized countries is limited, and his proposal calls for the United States and Japan to form a Group of Two to develop a more sweeping macroeconomic coordination mechanism. The G-2 model could be enlarged to include other industrialized nations, but even if this does not occur the G-2 would help solve many bilateral issues.

- Burdensharing. While the senator admitted that this is "the most difficult part of the U.S.-Japan economic equation," he nonetheless called for increased Japanese security spending to eliminate the "economic disadvantage in relation to Japan" that heavy defense spending imposes on the United States. Not only must Japanese defense and overall foreign aid spending be increased, but Japan must play a major role in solving the Third World debt crisis.

Despite its grand scope, Mr. Baucus's plan devotes little attention to the problem of negotiating and implementing such an agreement. He also suggested that such a pact would not damage the GATT process. Although the legislation stands little chance of passage, it has added fire to the debate.

Japan - Four ministries and one agency have started individually studying the idea of a bilateral FTA and eventually will pool their efforts into a unified position. This final step may be some time in coming, however, as the range of views among ministries is quite diverse.

Even the most optimistic agency, the Ministry of International Trade and Industry, sees many problems and pitfalls in the concept. Vice Minister for External Affairs Shigeo Muraoka described three basic principles of any bilateral FTA. It must promote the world GATT trading system by being nondiscriminatory and open to the rest of the world. It must contribute to the growth of the Pacific community by acting as a nucleus for enhancing interdependence. Finally, it must be a positive factor in building a more mature bilateral relationship. MITI is studying not only a bilateral agreement but a Pacific Basin pact as well and hopes to finish work within two years.

Two other government organizations have established formal advisory bodies. The Ministry of Foreign Affairs group is focusing on the impact of any such agreement on ties with Asian countries and on the Uruguay Round. The political problems that might arise in both Japan and the United States also will be discussed. MOFA has set no deadline for submission of this report. The Economic Planning Agency also is looking into economic impacts, both on the domestic economy and on Japan's trade patterns. EPA hopes to have its study finished within a year.

The Ministry of Agriculture, Forestry and Fisheries and the Finance Ministry have started informal working groups as both feel the FTA idea is too nebulous. MAFF's attitude is not very positive since it clearly wants to defend the country's current level of agricultural self-sufficiency. It is in no hurry to study the issue and scoffs at the idea that Japan can formulate a position within a few years. MOF is looking into the macroeconomic issues, including fiscal and monetary policy coordination and exchange rate policy.

MOFA and EPA also are trying to encourage interagency meetings on the subject but are having difficulty finding enough common interests to set an agenda. MOFA is particularly concerned that a lackadaisical Japanese response could be interpreted by the United States as another example of Japan failing to live up to its new, larger global responsibilities. Given the gap between MITI and MAFF viewpoints, however, MOFA could have a difficult time generating a timely, unified response.

The Nature of the Beast

Before real progress can be made on either side of the Pacific, the fundamental issue of what exactly would be included in a bilateral agreement must be answered. Until everyone has a better idea of the nature of the beast, the concept will remain a pipe dream. Both the EC's 1992 integration plan and the U.S.-Canada accord are serving as models for what should or should not be included, but the discussion is not limited to the content of these two agreements.

Tariff barriers would be a natural topic. Even though Japan and the United States have relatively low average tariffs, the levies on certain products are still substantial. The approach of the U.S.-Canada pact -- phasing out remaining tariffs over a 10-year period -- has received generally favorable comments. This is viewed as just the start, however, from the U.S. standpoint. The elimination of tariffs is not expected to affect the bilateral trade balance significantly.

Opinion on nontariff barriers is divided, depending on what barriers are to be discussed. Customs user fees, testing and certification requirements, performance requirements, government procurement policies, bidding procedures and so on generally are accepted as fair game for inclusion in an FTA. Cultural differences, tax differentials and business practices are more controversial. Many are tied to the national character and psyche and thus are resistant to change. Such topics also can ignite hostility if the perception of foreign interference in domestic issues is strong.

Trade restraints on items such as cars, steel, textiles, agricultural products and petroleum are particularly thorny problems. It certainly would be odd to negotiate a free trade agreement and maintain controls on these items. However, the political and the economic costs associated with these and other barriers to trade in specific products may be too large to bear all at once. Perhaps a long-term phaseout of managed trade would work, but the political barriers to initiating the process are very high on both sides of the Pacific.

Services surely would be included, especially in the financial area. The United States and Japan already have made progress toward harmonizing and integrating their financial markets, but both must consider broader issues as well. The separation of commercial and investment banking, telecommunications standards and legal services have caused difficulties in the past and remain sensitive topics. Air transport has proven particularly resistant to negotiation (see JEI Report No. 13A, April 1, 1988), and it is unclear if an FTA would help.

Intellectual property may not be included, simply because it is being discussed in other forums. The issue is being handled trilaterally by the United States, Japan and the EC. It also is a part of the Uruguay Round. Bringing it into any FTA talks may be necessary if progress via other means stalls.

Dispute resolution mechanisms are another topic of mutual interest, with the U.S.-Canada agreement serving as the primary model. From the Japanese standpoint, such an institution would lead to more sensible, apolitical solutions. However, the Japanese are leary of investing too much power in any arbitration mechanism for fear of it reaching politically unfeasible decisions.

Tied to this issue is the problem of trade laws. Would an FTA shield Japanese firms from U.S. laws? Or would U.S. laws remain a sword over Japan's head? Understandably, Japanese businessmen and policymakers favor the former interpretation while Americans foresee the latter. The U.S.-Canada pact, for example, would protect Canadian steel, car and food manufacturers from charges of dumping or unfair subsidization. The incentive to negotiate an FTA is sharply reduced if access cannot be guaranteed and if application of trade remedies remains a subjective decision.

Equally vexing are questions about the political practicality of such an agreement. It took Washington and Ottawa only two years to negotiate the U.S.-Canada pact, but no one expects the task to be as quick in the case of Japan. While the United States and Canada have broadly complementary economies and are already highly integrated, the Japan-U.S. relationship is much more competitive. The dislocations from a U.S.-Japan FTA would be much greater and more difficult to deal with if it covers major industries such as motor vehicles and agriculture. Many question whether it is politically possible for either side to negotiate a pact if it would cause too great a disruption.

Factors such as cultural differences, a history of acrimonious trade relations and a lack of trust (compared to U.S.-Canada ties) also would make negotiating a broad, meaningful FTA with Japan a much more difficult proposition. While recent trade agreements have reduced current tensions, the well of amity and trust is shallow in the opinion of many analysts.

Several American observers point out that the United States would automatically be at a disadvantage in negotiating a FTA with Japan because of institutional differences between the organizations that presumably would represent each side. The influence of the U.S. Trade Representative within the U.S. government compares poorly with that of MITI in Tokyo, meaning that the USTR will have to deal not only with the Japanese but also with other U.S. agencies. In terms of human and support resources, the USTR is overmatched. The situation raises questions over whether the United States can forge a unified position, whether the USTR can translate that into a beneficial agreement, and whether Washington can deliver on what the USTR promises.

Even if a pact is negotiated, it is an open question whether it can be approved. Observers point to the recent, sharp turnaround of Canadian sentiment toward the FTA -- which includes concerns such as cultural invasion and independence, whether the level of social welfare and health care will be equalized by economic pressures, and the question of general economic independence -- as a preview of a public campaign that may unfold in the United States or Japan. Rational arguments do not always have the intended effect on voters.

The same may be said of Congress itself. The sometimes irrational responses of some members to the Toshiba Machine Co., Ltd. affair and to rising foreign direct investment in the United States may be mere shadows of Congress' reaction to a U.S.-Japan FTA. The potential for conflict between a Republican president and a Democratically controlled legislature may further reduce the chance that a bilateral free trade treaty would be approved. It could take a great deal of political capital as well as strong leadership in both countries to obtain legislative approval of an FTA.

Road Blocks or Building Blocks?

Beyond these concrete issues, basic philosophical questions arise about the concept of bilateral free trade agreements. Uppermost in many minds is what impact a U.S.-Japan FTA would have on the Uruguay Round. Arguments that it would promote or retard the process seem equally plausible. Unlike the U.S. accords with Canada and Israel, two relatively small countries economically, an agreement with Japan would involve a substantial portion of global trade and output. Coupled with the EC's 1992 integration plans, would a U.S.-Japan FTA mean the end of the global free trade system and the start of a system based on trading blocks? Those who argue that trading blocks can be a transitional phase to achieve global free trade make no convincing argument on how or why the change would occur. The danger with trading blocks is that they may breed a false sense of complacency. Many Japanese analysts point to the formation of loose trading blocks as one factor contributing to the Great Depression.

Of particular concern is the impact on developing countries that depend heavily on the United States, Japan and Europe for markets. Even a limited amount of trade diversion could prove devastating to small exporting countries. Yet if the FTA led to trade creation, it could lift the developing countries' fortunes as well. Given the complexity of American and Japanese economies, it is not surprising that economists cannot agree on whether trade diversion or creation would dominate; there are simply too many "what ifs." This uncertainty instills a great deal of caution in Japan's approach to an FTA.

One solution to both these concerns is the creation of a Pacific free trade block. By allowing countries to join in stages or participate in free trade in a limited number of goods or services, a Pacific trading block may indeed act as a stepping stone to global free trade. The complexities of negotiating such an agreement are naturally greater. A number of institutions already exist, such as the Pacific Economic Cooperation Conference, that are focusing on expanding Pacific Basin interaction. Whether such institutions can become the framework for a Pacific free trade zone has yet to be examined.

The process of exploring and perhaps negotiating a free trade agreement between Japan and the United States (or other countries) may in itself yield benefits. Dispute settlement institutions may evolve, chronic issues may be resolved and mutual trust improved. The cost of failure, however, is also high. With the anti-FTA parties reportedly in the lead before the November 21 Canadian lower house elections, there already are rumblings south of the border about the adverse consequences should Canada reject the agreement. Not only would the United States be less inclined to cooperate with Canadian requests in the future, but a rejection also may dampen the spirit of GATT members. If two countries with as many common interests and ties as the United States and Canada cannot succeed in reducing barriers in areas such as services and intellectual property, what chances do the disparate participants in the Uruguay Round stand of achieving consensus?

In sum, it appears that the concept of a U.S.-Japan free trade agreement is fraught with perils as well as pearls, not only for the two countries directly involved but for the global economy as well. Fortunately, neither side seems eager to rush into an agreement anytime soon. With careful thought and negotiation, it may be possible to eliminate many of the uncertainties. The process surely will be a long one, but the prize may be worth the risks.

For further information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

A Two-Part Report: A and B

NO. 44B
November 18, 1988

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Tokyo Welcomes Bush Victory

Joining the international chorus of congratulations, the Japanese government welcomed the outcome of the November 8 U.S. presidential election and expressed confidence that "with the election of [George] Bush . . . Japan-U.S. relations will be further strengthened in the new era." Tokyo voiced concern, however, that the Democratic-controlled Congress would push harder for protectionist responses to bilateral trade frictions and increased Japanese foreign direct investment in the United States as well as for Japan to assume more of the defense burden. While acknowledging that Mr. Bush is expected to make every effort to uphold free trade principles, Tokyo's unspoken message appeared to be that the president-elect's skill in dealing with what may be a more aggressive legislature has yet to be demonstrated and, thus, is still open to question.

But there were only words of praise for the president-elect's diplomatic acumen. Prime Minister Noboru Takeshita reportedly stated that one of Mr. Bush's positive achievements as vice president has been in elevating the importance of U.S. relations with the countries of Asia and the Pacific, including Japan. Shintaro Abe, secretary general of the Liberal Democratic Party and

Considerable changes also are in store on the House Armed Services Committee. Two senior members are retiring -- Samuel Stratton (D, N.Y.), chairman of the armed services procurement and military nuclear systems subcommittee, and Robert Badham (R, Calif.), the subcommittee's ranking minority member -- and it is unclear who will take their place. Additionally, Mac Sweeney (R, Tex.) and Jack Davis (R, Ill.) were both defeated, leaving a total of four vacancies on the committee.

Foreign direct investment is among the issues important to Japan that the 101st Congress is likely to take up when it convenes in January. Concern about foreign investment in the United States and popular support for the idea of registration of foreign owners are likely to once again coalesce into a disclosure bill similar to the one passed by the House in early October but not acted on in the Senate.

On top of the speculation about replacements on Capitol Hill, Mike Mansfield announced November 14 that he was resigning after serving as U.S. ambassador to Japan since 1977. No possible replacements had been mentioned by President-elect George Bush's transition team at JEI press time.

Gretchen Green

Oil Price Fall Has Ups And Downs

The price of crude oil on world commodity markets always has had a major influence on the Japanese economy because of its near-total dependence on imported energy. Weak prices for crude have been one factor contributing to the economy's successful adjustment to the stronger yen over the past three years. With the Organization of Petroleum Exporting Countries unable to enforce ceilings on crude oil output by members, prices have gyrated wildly in recent months while falling to lower levels. While reduced oil prices will help business profits, hold inflation down and keep the economy growing, some government energy planners are concerned about the long-term impact on energy conservation efforts.

OPEC has had a daily production ceiling of just under 15.1 million barrels a day for its members since 1986 with one glaring exception. Iraq has refused to accept a quota substantially lower than its nemesis Iran and has been pumping an estimated 2.6 million barrels a day from its wells, far above the 1.5 million barrel mark it agreed to in 1986. A free-for-all broke out this summer when top producer Saudi Arabia announced that it would no longer cut its output (and suffer reduced revenues) to compensate for overproduction by other OPEC members. Spot benchmark prices plunged from the $15 range to between $10 and $11 a barrel and have seesawed since then as OPEC ministers have tried to patch together a unified production schedule. Current OPEC output is in the neighborhood of 21 million barrels a day, and current prices are well below the target level of $18 a barrel.

Japanese oil buyers have had a field day with the OPEC price war. According to Ministry of Finance data, the yen price of crude oil has declined during 1988 with minor interruptions (see Table). Even in recent months when the yen weakened a little against the dollar, the price of oil has declined from Japan's standpoint. For many Japanese corporations, the continued drop will fatten resurgent profits. Energy-intensive industries (including ones that do not rely on oil as a major source, such as steel) expect fuel bills to be slashed by as much as Y600 million ($4.8 million at Y125=$1.00) per company if OPEC fails to come to an agreement. Oil refiners and utilities expect even larger gains. For example, Tokyo Electric Power Co., Inc. saves Y22 billion ($176 million) for every dollar fall in the price of oil.

Japanese Crude Oil Imports

(c.i.f. basis)

	Volume (1,000 kl)	Value ($1,000,000)	Dollars per Barrel	Yen per Kiloliter	Yen/Dollar Exchange Rate
1987					
August	13,900	$1,591	$18.20	Y17,265	Y150.83
September	14,384	1,664	18.39	16,543	143.02
October	15,102	1,747	18.39	16,543	144.59
November	17,288	2,017	18.40	16,029	138.52
December	17,288	2,002	18.41	15,361	132.65
1988					
January	17,052	1,952	18.20	14,423	123.01
February	18,079	2,024	17.80	14,393	128.57
March	16,030	1,768	17.54	14,200	128.72
April	16,311	1,706	16.62	13,137	125.64
May	14,673	1,488	16.12	12,649	124.76
June	15,432	1,585	16.33	12,863	125.23
July	17,894	1,796	15.95	13,186	131.40
August	14,038	1,339	15.17	12,699	133.12
September	12,566	1,167	14.77	12,461	134.21

Source: Ministry of Finance

The Bank of Japan and the Economic Planning Agency also gladly welcome weaker oil prices. According to BOJ, a dollar drop in crude prices pushes Japanese wholesale prices down 0.2 percent. As domestic demand has become the focus of economic growth, worries over inflation have risen. Many observers feared that BOJ will be forced to rein in money supply growth by raising interest rates to cool inflationary pressures. Lower oil prices will reduce the pressure and give BOJ more room to maneuver. EPA also feels that lower oil prices will yield a net gain for the economy, but benefits from recent price declines will not begin to appear until late 1989 -- too late to influence this fiscal year's economic performance.

The Ministry of International Trade and Industry is less sanguine about the situation. One factor that has helped Japan grow in the 1970s and 1980s is a policy of strict conservation and diversification of energy sources. MITI planners are concerned not so much that overall energy imports have climbed so far this year, but that the energy efficiency of the economy seems to be decreasing (see JEI Report No. 36B, September 23, 1988). MITI and oil industry leaders also are not happy with the wild price swings of the past few months. Even if the trend is downward, large price fluctuations complicate planning by both MITI and businesses.

Of equal concern to Tokyo is the impact of falling energy prices on exports. Lower input costs may enhance the competitive position of Japanese firms, causing many to continue to focus on exporting and delay restructuring to meet domestic demand. From a more basic viewpoint, lower oil prices reduce the value of total imports and widen Japan's trade surplus. For two straight months Tokyo has laid the blame for an increasing monthly surplus directly on lower prices for crude. If prices remain depressed, Tokyo is worried that more competitive exporters and lower import bills will push up the annual trade surplus and rekindle trade tensions.

Although unable to forge a consensus in mid-October meetings, OPEC ministers report progress toward a solution as they prepare for a November 21 semiannual meeting. The compromise would involve setting identical ceilings for Iran and Iraq at 2.4 million barrels a day, setting an overall OPEC output ceiling of 17.5 million barrels a day, and lowering the target price to $15 a barrel. The main stumbling block to this plan is Iran's resistance to equality for Iraq. If an agreement is not reached, however, Iraq will be in a position to raise output to well over 3 million barrels a day by mid-1989. With current world demand hovering in the 18 to 19 million barrel a day range, such an increase would be a disaster for OPEC discipline but a boon to oil-importing nations. The November 21 OPEC meeting will be watched with extraordinary interest in Tokyo and elsewhere.

Jon Choy

Guessing The Future Of Japan's Car Export Limits

Will Tokyo finally scrap the quotas on Japan's U.S.-bound car shipments when the eighth year of restraints ends in March 1989? That looks like a safe bet. After all, exports, which fell 3.7 percent short of the 2.3-million-unit shipment ceiling in FY 1987, have been running well behind year-earlier totals since the start of FY 1988. At 1,074,367 sedans and hatchbacks through September, exports were down 13.8 percent from the April-September 1987 number and off 6.6 percent from the pace needed to reach the annual export limit. The decline in shipments, in short, has become an "established trend" -- the condition International Trade and Industry Minister Hajime Tamura set last January for the elimination of the quotas (see JEI Report No. 6B, February 12, 1988).

Odds makers in the United States and Japan also think the political timing is right. Since one of the Reagan White House's first major foreign economic policy moves was to maneuver Tokyo into restricting car exports, the coming change in administrations gives Japan a unique window of opportunity to end the controls. The fact that the huge bilateral trade deficit is shrinking at last helps as well. Moreover, the U.S. Big Three automakers are expected to earn record profits in 1988. Earnings in the first three quarters added up to $8.2 billion, nearly $0.9 billion more than in the comparable 1987 period and within range of 1984's all-time-high profits of $9.8 billion.

But an end to the export restraints is not a foregone conclusion. For one thing, U.S. sales of Japanese nameplates, both imported and domestically

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REPORT

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THE CHANGING JAPANESE CONSUMER

Summary

With private consumer spending accounting for more than half of Japan's gross national product, it is hard to overemphasize its importance to the country's economic performance. Yet, it often gets scant attention compared to trade or investment, for example. Recently, interest has risen as some analysts have argued that Japanese consumer behavior is changing, with one consequence being that consumer spending is having even more of an impact on economic growth. One key is the extent to which the Japanese consumer spends rather than saves. Either way, Americans may be affected. Japanese savings get funneled indirectly through international capital markets to help fill the shortfall in American savings. Obversely, American firms are hopeful that some portion of the increased spending will go for products made in the United States. Whether rising spending translates directly into higher standards of living in Japan is more problematic. Leisure may end up getting sacrificed. And the consumer spending figures do not include housing, which is important enough to be treated separately for statistical purposes.

Saving versus Spending

Economists attempting to divine the secrets of Japan's exceptional postwar economic performance frequently focus on the country's extraordinary high rate of savings, especially by households. The abundant savings are credited with a variety of virtuous outcomes, including high levels of investment, a superior export performance and even low inflation rates. Yet, in the recommendations for economic restructuring outlined in the two government-commissioned Maekawa Reports and elsewhere, Japanese opinion leaders have called for an increase in private consumer spending (see JEI Report No. 39A, October 14, 1988). Whether this means higher spending out of existing disposable income or higher incomes is not always spelled out, but lower savings rates are strongly implied.

Consumer spending and savings represent opposite choices; to the extent that a consumer chooses to spend money he or she chooses not to save. The shifting emphasis from saving to consumption suggests some confusion as to what policymakers want the consumer to do. In fact, varying circumstances make a push for one or the other correspondingly appropriate.

High savings rates are helpful, for example, if the country has a buoyant climate for plant and equipment investment. Savings are, in effect, current production that workers in their role as consumers do not turn around and purchase back. The extra aggregate production may pile up as unwanted inventory accumulation, an obvious bad result that leads to production declines and reductions in employment. However, if the excess of workers' production over their consumption ends up as additions to plant and equipment, future productive capacity is enhanced, an obvious gain. Finally, the excess of domestic production over domestic consumer demand may end up partly as a surplus of exports over imports. This brings us to the current situation.

If Japanese consumers can be induced to spend more, the reasoning goes, less extra production will end up reflected in a large current account surplus. Domestic demand could replace export demand. Or import demand could increase so that Japanese consumers, while not collectively consuming what they produce and still offering the world the surplus of their domestic production, would offset part of that imbalance by buying more from abroad. Either way, reduced saving would help shrink the current account surplus. In short, opinion leaders argue, the time has come to emphasize the positive role of consumer spending.

The Role of Consumer Spending in the Economy

For years exports were seen, rightly or wrongly, as the engine of Japanese economic growth. While it has been years, if not decades, since this was official policy, foreign experts in particular made a connection between Japan's rapid rate of growth and its mounting trade surpluses in the early 1980s. And they cite this as evidence of the continued importance to Japan of exports.

By 1987, however, exports clearly had been pushed to the sidelines. In the 1987 fiscal stimulus package, for example, government spending shared top billing with other components of domestic demand -- housing, private investment and private consumer spending. Surging housing demand, government spending, and plant and equipment investment can create strong domestically led growth even in the face of sluggish consumer spending. However, the latter, if it behaves perversely, can easily overwhelm all the other factors, even taken together. Most of the time consumer spending has been like a well-behaved elephant -- powerful, hard to ignore, but given little individual attention as long as it stays out of trouble. With tax cuts, the pending indirect consumption tax, and

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changes in the way savings are taxed, the government has moved the beast into the limelight.

Table 1 shows the role of price-adjusted consumer spending in recent years and the contribution that it has made to real Japanese economic growth. While private consumption looms large in the Japanese economy year in and year out, it also varies as a percentage of gross national product over the business cycle, mostly because other components of GNP are more volatile. During periods of accelerating economic growth, as in 1976 and 1987, consumer spending has grown more slowly than the overall economy, thereby becoming a smaller percentage of GNP. Conversely, during periods of slow or negative growth, it props up total demand and its importance to the economy rises, as shown in 1974 and 1986.

Table 1: Private Real Consumer Spending and Economic Growth in Japan, 1970-87

	Consumer Spending as Percent of GNP	Contribution of Consumer Spending to GNP Growth	GNP Growth Rate	Consumer Spending Growth Rate	Saving Rate*
1970	57.6%	4.1%	9.5%	6.9%	17.9%
1971	58.3	3.2	4.3	5.6	17.8
1972	58.7	5.4	8.5	9.3	18.2
1973	59.4	5.4	7.9	9.2	20.4
1974	60.1	-0.2	-1.4	-0.3	23.2
1975	61.1	2.6	2.7	4.4	22.8
1976	60.4	2.1	4.8	3.5	23.2
1977	59.7	2.6	5.3	4.2	21.8
1978	59.9	3.2	5.2	5.4	20.8
1979	60.5	3.9	5.3	6.5	18.2
1980	58.9	0.9	4.3	1.4	17.9
1981	57.5	0.8	3.7	1.3	18.3
1982	58.1	2.4	3.7	4.1	16.5
1983	58.1	1.9	3.2	3.2	16.3
1984	56.8	1.6	5.1	2.7	16.0
1985	55.6	1.6	4.9	2.7	16.0
1986	56.1	1.8	2.4	3.2	16.6
1987	55.8	2.2	4.3	3.9	16.6

*Household savings as a percent of current household disposable income. In contrast, consumer spending represents the real expenditures of households and nonprofit organizations.

Source: Economic Planning Agency

The table also shows Japan's high rate of household savings. Japanese savings by this measure are between two and four times the U.S. level as a percentage of income. (More comprehensive measures that include business and government savings show a smaller discrepancy.) But the country's high savings rate has not prevented the Japanese from also boosting consumer spending significantly over the years. Between 1969 and 1987 total real private consumption more than doubled. Since the population grew 19.2 percent during this period, per capita spending growth came to a whopping 77.6 percent.

Consumer spending and GNP growth are not independent factors. Each influences the other. For example, if government spending spurs the expansion of the economy, private consumption is likely to rise at least a little as the effect of the stimulus spreads throughout the economy. Similarly, higher consumer spending will induce expansion elsewhere in the economy in addition to its role as the largest single component of GNP. This interdependence reduces the extent to which consumer spending and GNP are likely to follow separate paths over the business cycle. It also means that higher consumer spending may reflect growth elsewhere in the economy rather than being a cause of that growth.

The new emphasis on consumer spending implies that policymakers would like it to be more of a cause than an effect of economic growth. Two trends in the data, however, offer mixed evidence as to whether this is likely.

- Recent data show no clear tendency for consumer spending to rise at the expense of saving. This implies that consumption has risen passively as GNP has grown, rather than being a cause of the growth. Household saving, which is measured somewhat differently than consumption or GNP, remains at a high level. While arguably low relative to the early stages of previous economic recoveries, the 1987 figure clearly suggests that Japanese consumers have not yet completely abandoned the savings ethic.

- The GNP data on consumer spending also reveal a very clear trend in the composition of spending (see Table 2). Without exception during the 1980-86 period, real purchases of services and durable goods, such as home appliances, expanded at the expense of nondurables and semidurables. The changes clearly reflected income effects. Japanese real GNP and household disposable income grew rapidly during this period, pulling up expenditures on income-sensitive services, such as recreation, and expensive durable goods, such as furniture. The rapid increase in expenditures on services, especially, is a common one among growing industrial countries. In the United States, for example, it has a 50-year history.

Table 2: Composition of Real Consumption Expenditures of Households in the Domestic Market by Type, 1980-86

	Durables	Semidurables	Nondurables	Services
1980	5.9%	13.1%	33.3%	47.6%
1981	6.0	12.5	33.0	48.5
1982	6.3	12.5	32.4	48.8
1983	6.6	12.3	32.0	49.2
1984	6.9	12.4	31.3	49.7
1985	7.1	12.0	30.9	49.9
1986	7.5	11.8	30.0	50.6

Source: Economic Planning Agency

Durable goods purchases generally vary over the business cycle, both because they are easily postponed and because they are sensitive to interest rates. Low rates appeal to Japan's increasing ranks of borrowers because borrowing costs decline and to savers because continued savings -- an alternative to durable goods purchases -- are less attractive. To the extent durable goods are becoming a more important part of how households spend their money, consumer spending in general plays a more active role in influencing the overall rate of economic activity, rather than merely reflecting developments elsewhere.

But the increased importance of services has the opposite effect. Demand for services is particularly stable since they cannot be stored for future use. Since both durable goods and services are becoming more important, the data offer no clear-cut clues as to whether consumer spending will be more of an independent factor in the future.

The increase in purchases of durable goods also should be compared to the reduction in the household savings rate shown in Table 1. To the extent that buying a long-lived asset really amounts to a savings decision in the sense of deferring complete consumption to a later year, the decline in the household savings rate is less than it appears.

The Current Economic Expansion

Rashomon is a famous Japanese film where several different observers of an episode later describe it completely differently. Today Japanese filmmakers could update the film using contemporary economic data on Japanese consumer spending.

- The broadest, and in many ways the most accurate, picture of what has happened in 1987 and 1988 is provided by the Economic Planning Agency's national income statistics. (Tables 1 and 2 use the annual versions.) The recent quarterly GNP data presented in Table 3 show a continuation of the long

Table 3: Quarterly Growth of Real GNP and Consumer Spending, 1987-88

(seasonally adjusted, quarter-to-quarter change)

		Real Consumer Spending	Real GNP
1987:	I	2.0%	1.5%
	II	0.7	0.0
	III	1.0	2.0
	IV	0.4	1.8
1988:	I	2.5	2.7
	II	0.6	-1.0
	III*	1.3	1.9
	IV*	1.2	1.1

*NRI & NCC Co, Ltd. November 1987 forecast.

Sources: Economic Planning Agency and NRI & NCC Co., Ltd.

patterns evident in Table 1. Consumer spending has shown less quarter-to-quarter, seasonally-adjusted variation than other components of GNP. Table 3 figures incorporate the period just after the economy hit bottom in late 1986, as measured by the coincident series accumulated diffusion index, a broad measure of economic activity developed by the Economic Planning Agency. The figures do not demonstrate conclusively what is often argued -- that in 1988 consumer spending is picking up relative to other sectors of the economy. Whether this pattern will emerge more clearly later in 1988 and in 1989 is still to be seen, of course, but the projected growth rates for the second half of this year from NRI & NCC Co., Ltd., the successor to the Nomura Research Institute, offer little encouragement.

- Retail sales data, which are available far more quickly than EPA figures, show a dramatically different picture. Department store sales numbers suggest that sales are booming (see Table 4). For example, September 1988 department store sales nationwide were 6.8 percent ahead of a year earlier. Since a 2.8 percent gain in February 1987, monthly year-to-year advances have never dropped below 4.9 percent. With consumer price increases well under 1 percent annually, these figures translate into very healthy real gains. As shown in the comparison with nominal private consumer spending included for reference purposes in Table 4, in the early 1980s the retail sales figures suggested a lower rate of increase in consumer spending than the national income statistics on consumer spending; since 1986 they have been more optimistic. New car sales, as measured by vehicle registrations and thereby largely free of measurement-distorting price components, also have soared in 1988.

Table 4: Indicators of Consumer Spending, 1981-88

	Sales of Large Retail Stores		Car	Nominal Private
	Total	Department Stores	Registrations	Consumer Spending
1981	8.0%	6.6%	0.5	5.7%
1982	4.3	3.2	6.0	6.8
1983	3.0	2.2	3.2	5.1
1984	4.2	4.6	-1.3	4.9
1985	3.6	4.4	0.3	5.0
1986	4.6	5.4	1.4	3.7
1987	4.9	5.5	4.1	3.7
1988: I	6.6	7.5	14.7	5.2
II	7.2	7.8	17.4	4.6
III	n.a.	n.a.	11.2	n.a.

Sources: Ministry of International Trade and Industry, Japan Automobile Dealers Association, Japan Mini-Vehicles Association, Economic Planning Agency

- Yet another perspective is provided by the family income and expenditure survey, conducted monthly by the Management and Coordination Agency. It surveys household spending and income patterns, leaving out agricultural, forestry and fishing households and all single-member households. In 1985 the omitted groups came to about a quarter of the total. Leaving out single-member households creates a problem whether comparisons are made across households or over time because such groups, whose spending behavior is very different from other households, are becoming more important in Japan. In addition, the reported figures are on an individual household basis and are therefore neither an aggregate nor a per capita figure, rendering comparisons with other data difficult.

For these reasons, the results of the survey should be interpreted as representing important economic segments of the population, not the economy as a whole. But as such, they are invaluable. The evidence shows that different groups of the Japanese population are changing their consumption in quite different ways. Table 5 provides details. Wage-earning households, easily the most important single household type and about 80 percent of the sample population, have increased their consumer spending very cautiously in recent years, even before the rapid appreciation of the yen and the economic slowdown in late 1985 and throughout 1986.

Table 5: Household Expenditures, 1985-87

(year-to-year percent change)

	Wage-Earning Households		"General" Households (consumer spending)	Weighted Average Consumer Spending
	(disposable income)	(consumer spending)		
1985	4.0%	2.4%	3.4%	2.6%
1986	1.6	1.4	0.6	1.2
1987	2.1	0.8	4.1	1.7

Source: Management and Coordination Agency

In contrast, "general" households, which make up about 20 percent of the sample population and are defined as those households headed by owners of businesses or professionals such as lawyers and doctors, increased their spending far more rapidly than wage earners in 1987. Some analysts attribute this difference to a wealth effect: spiraling land and stock prices have enriched "general" households to the point where they feel more comfortable spending a high percentage of their income. Wage-earning households with fewer such assets have on balance moved in the other direction, increasing their savings by spending a smaller proportion of their disposable income. If "general" households and wage-earning households make consumer purchases in different outlets, buy cars at different rates and so forth, then measures such as department store sales serve as inadequate proxies for trends in overall consumer demand. In the current economic environment, this suggests that the boom inferred from retail sales may be exaggerated.

While presumably not as important as for the wealthier "general" households, the Economic Planning Agency has found a significant wealth effect even for wage-earning households. EPA estimates such households' consumer spending rises 15 percent for every percentage increase in their real financial assets. With the financial assets of workers' households rising 12 percent in 1987, EPA figures that the wealth effect had a major impact on their consumer spending, which rose a real 1 percent.[1]

The survey of wage-earning households also provides a look at consumption patterns by income level. Some of the extremes of the income distribution -- young, low-income, single women living alone, and the wealthy self-employed, for example -- are not included. Still, the results are revealing. Table 6 groups Japanese workers into five income groups. Group V has the highest disposable income, about Y560,000 per month or $54,000 per year at Y125=$1.00. Its disposable income is about 2.5 times that of Group I, the lowest.

Table 6: Consumer Spending by Income Group for Workers' Households, 1984-87*

(consumer spending as percent of disposable income)

	Income Quintile				
	I	II	III	IV	V
1984	88.5%	82.0%	78.5%	76.4%	74.8%
1985	87.2	81.5	76.4	76.3	73.1
1986	85.5	81.6	77.8	75.2	73.3
1987	85.3	79.8	76.1	73.9	73.2
Change in disposable income:					
1984-87	5.8	5.6	6.4	7.7	11.0
1986-87	1.6	1.0	1.4	2.2	3.3

*Consumer prices, excluding imputed rents, rose 4.1 percent between 1984 and 1987 and dropped 0.2 percent in the 1986-87 period.

Source: Management and Coordination Agency

Higher income groups consistently consume a lower fraction -- and thus save a higher fraction -- of their disposable income than lower income groups, a conclusion with abundant empirical support across many countries and over several decades. More interestingly, all five groups increased their rates of savings between 1984 and 1987.

The wealthiest group, Group V, had the largest increase in disposable income both in 1987 alone and for the 1984-87 period. Furthermore, its spending showed greater increases and was comparable to the gains indicated for "general" households. Spending by Group V increased 3.2 percent in 1987 and 8.7 percent between 1984 and 1987. Both figures are close to the increase for "general" households of 4.1 percent in 1987 and 8.3 percent over the period, and they are higher than for workers' households, whose spending increased 4.7 percent between 1984 and 1987 and a mere 0.8 percent in 1987.

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[1] Japan, Economic Planning Agency, Keizai Hakusho (1987 Economic White Paper) (Tokyo: Okura-sho Insatsu-kyoku, 1988), pp. 256-257 (in Japanese).

In addition, data through 1986 suggest that the higher income groups had larger income and spending gains primarily because their wages and salaries, rather than other earnings, went up faster than for lower income groups. For example, the disposable income of the lowest quintile climbed 4.1 percent overall between 1984 and 1986, while that of the highest group jumped 7.4 percent. Considering only wage and salary income, however, the increase for the lowest group was only 3.3 percent while the highest income group had an 8.7 percent boost.

Put differently, the Japanese consumer has not really changed. If wages and salaries go up, so does spending. Absent an increase in income or a strong wealth effect, consumer spending stagnates, all the hoopla about the new Japanese consumer notwithstanding. This suggests that the growth in consumption, so vital to the economy, will depend on the continued growth of disposable income. Consumer spending, if it is to pick up, is likely to do so as lower income workers receive larger wage increases.

Recent data suggest that this may be happening. Table 7 shows that, as income gains for workers this year have accelerated, consumer spending has grown more rapidly. With inflation still running at less than 1 percent, workers have higher real disposable incomes and the wherewithal to spend more in price-adjusted terms. By contrast, 1987 disposable income was up only a nominal 2.1 percent and spending rose only 0.8 percent over 1986. While earlier this year consumer spending gains outpaced the growth in disposable income, the figures for June, July and August show consumer spending again lagging earnings growth, adding fresh evidence about the dependence of consumer spending expansion on higher incomes.

Table 7: Disposable Income and Consumer Spending by Workers' Households, 1982-88

(year-to-year percent change)

		Nominal Disposable Income	Consumer Spending	
			Nominal	Real
1982		5.8%	5.9%	3.1%
1983		2.6	2.3	0.4
1984		4.4	3.9	1.7
1985		4.0	2.4	0.3
1986		1.6	1.4	1.0
1987		2.1	0.8	1.0
1988	January	5.3	2.6	1.9
	February	2.0	5.0	4.4
	March	1.1	3.0	2.5
	April	3.7	3.0	3.0
	May	0.2	1.7	1.8
	June	7.4	2.4	2.4
	July	4.9	4.6	4.1
	August	4.3	3.3	2.7

Source: Management and Coordination Agency

The family income and expenditure survey also provides information about the composition of expenditures by item. Table 8 combines data for workers' and "general" households. While there is considerable year-to-year stability in the patterns, expenditures on food have declined marginally even while there has been a shift toward more expensive alternatives such as eating out. As a picture of consumer expenditures, Table 8 of course does not reflect government outlays for education, transportation or medical care, among other items.

Table 8: Distribution of Expenditures Per Household, 1980-88

(percent of total consumer spending by "general" and wage-earning households)

	1980	1984	1985	1986	1987	Growth Rate 1987-88*
Food	29.0%	27.3%	27.0%	26.8%	26.1%	1.5%
Take home	(1.7)	(1.8)	(1.8)	(1.8)	(1.8)	(8.3)
Eaten out	(3.7)	(3.8)	(3.8)	(4.0)	(4.0)	(6.1)
Housing	4.6	4.7	4.7	4.7	5.0	5.9
Utilities	5.7	6.5	6.5	6.3	5.8	0.7
Furniture and Housewares	4.3	4.2	4.3	4.1	4.2	-0.1
Clothes and Footwear	7.9	6.9	7.2	7.1	7.1	4.2
Medical Care	2.5	2.5	2.5	2.5	2.6	6.4
Transportation and Communications	8.0	9.0	9.1	9.1	9.4	3.3
Education	3.6	4.0	4.0	4.1	4.3	5.5
Reading and Recreation	8.5	8.8	8.9	9.0	9.0	10.7
Other	25.8	25.8	26.0	26.3	26.5	3.8
Total	100.0	100.0	100.0	100.0	100.0	3.7

*January-August 1987 compared to January-August 1988.

Source: Management and Coordination Agency

Recall that the national income data show that durables as a percentage of all consumer spending increased consistently between 1980 and 1986. The family income and expenditure survey provides evidence that this trend has continued, at least until recently. In fiscal year 1987 ending March 31, 1988, spending on durables increased 7.7 percent, while purchases of nondurables were flat. In addition, Sumitomo Bank, Ltd. reckons that imports are becoming a particularly important source of consumer durables. In every year between 1979 and 1985 real imports accounted for between 6 and 7 percent of price-corrected spending on durables. As a result of the rapid appreciation of the yen that began in 1985, they averaged slightly more than 7 percent in 1986, shooting up to 9 percent in 1987 and about 12 percent in the first six months of 1988.

Whether this development bodes well for the future trade balance is not clear. On the one hand, it is encouraging that foreign suppliers are becoming more important to Japanese households and are supplying products whose demand is likely to continue to rise as Japanese household incomes go up. On the other hand, analysts at the Industrial Bank of Japan, Ltd. point out that part of the current strength of consumer durables reflects the cyclical peaking of demand. According to the bank, the previous cycle peaked in 1975. Since many durable goods, such as major appliances, last an average of about 10 years, this could suggest that, while in the long run demand may rise, over the next few years this source of demand may be relatively weak.

Recent monthly data hint this may be already happening: as measured by the family income and expenditure survey of workers' and "general" households, nominal demand for domestically produced and imported consumer durables was 20.6 percent lower in June 1988 than in June 1987. July showed a 13.3 percent drop. August, the most recent month for which information is available, had a 17.4 percent drop compared to the same month a year earlier. Since prices changed little, these numbers translate into significant declines.

Looking forward a few months, a less than completely optimistic picture of overall consumer spending emerges. It will gain strength from higher disposable incomes and continued low interest rates, but two other anchors of demand in the past year, durable goods and the wealth effect, may diminish in importance. Demand for durable goods may have reached a cyclical peak, and the wealth effect, a consequence of skyrocketing land and stock prices, may lessen as those prices level off. The result: healthy, if moderate, growth in consumer spending.

The recent figures imply that Japanese consumers are not likely to be the source of a significant cut in the current account imbalance. Continued high household savings will remain a part of Japan's capital outflow and a prop under the current account surplus. One area of recent strength for exporters to Japan, durable goods, may be weakening, but improved distribution channels and the continued effects of the strong yen will boost demand for imported consumer goods.

On one critical question, the various sets of data point to an unambiguous conclusion. Whether the focus is the annual or quarterly national income data (Tables 1 and 3) or the family income and expenditure figures (Tables 6 and 7), savings rates so far have changed little. They may yet fall, but during 1986 and 1987 they remained high in the face of a surge in demand for durables, a consumption-inducing wealth effect and a soaring yen. Part of the exchange rate effect gets reflected in higher real disposable incomes, but other benefits, such as increased competition to introduce new and better products, should be apparent in an upward shift in consumer spending as a percentage of disposable income. So far such effects have been overwhelmed by the traditional slow response of consumer spending as incomes rise coming out of a recession. This suggests a certain stability in consumer spending patterns and implies that consumption has not yet become an independent factor driving economic growth. Consumer spending, the well-behaved elephant, has been brought to center stage, but he is still a little listless.

Implications for the Japanese Standard of Living

For whatever reason, many analysts still argue that since 1985 consumer spending has been greater than anticipated. Whether expected or not, consumer spending unquestionably has risen in recent years and months, but this does not necessarily imply a proportional gain in the well-being of ordinary Japanese. For one thing, the spending figures leave out purchases of housing. The flip side of rising real estate values that create a positive wealth effect on consumer spending by some is that they make housing less affordable for others. While Japanese housing starts -- and the average size of the new units constructed -- have increased in recent years, affordable quality housing is an elusive goal for many Japanese of modest means.

In addition, leisure is an important aspect of the standard of living. In fact, except for those rare individuals who enjoy every minute of work, leisure can be thought of as one more item of consumer expenditure, purchased at the cost of foregone income. This has gained official Japanese recognition in economic plans and other documents that call for shorter working hours. However, Japanese employees seem to be on the job about as long as they have in the recent past, especially if both hours per worker and workers per population are considered.

- The average hours of work per month vary according to business conditions in Japan, as Edward J. Lincoln has pointed out.[2] During recessionary periods companies cut back on overtime and even on regularly scheduled work, perhaps because they believe they have few options to vary the number of people on the payroll. During a recovery the hours worked go back up. This implies that economic growth in the short run comes at a cost in leisure. Even in the long run, though, it is not evident from the data that Japanese employees are working shorter hours (see Table 9).

Table 9: Working Hours and Labor Force Participation, 1970-87

	Hours Worked Per Worker Per Month*	Female Labor Force Participation Rates		
		25-34	35-44	45-54
1970	186.6	46.8%	60.1%	61.1%
1975	172.0	43.2	56.9	59.8
1980	175.7	48.7	60.9	62.0
1984	176.3	52.1	63.7	64.1
1985	175.8	52.2	63.7	64.6
1986	175.2	52.1	64.4	64.9
1987	175.9	53.6	64.5	65.2

*Total for all industries and for firms having 30 or more regular workers.

Sources: Ministry of Labor and Management and Coordination Agency

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[2] Edward J. Lincoln, Japan: Facing Economic Maturity (Washington, D.C.: Brookings Institution, 1988), pp 58-59.

- In addition, young married women are more likely to bring home a paycheck than previously. While not without many benefits, this phenomenon further reduces household leisure and leaves less time available to do housework, as two-income families anywhere can testify. The male labor force participation rate (those working or seeking work divided by the population in that age group) for ages 25-55 has changed little since 1970, while the rate for females in this age group has risen, as Table 9 shows. But labor force participation generally has fallen for those younger than 25 or older than 55 for both men and women, and this has been enough to pull down the overall average labor force participation rate from 65.4 percent in 1970 to 62.6 percent in 1987. This suggests a redistribution of leisure time away from those in the peak working years.

The facts that those who are employed are working at least as many hours as before and that in numerous households both husband and wife are employed suggest that leisure time has declined for many. To the extent that reduced leisure and less time keeping house accompany higher household income, purchases of goods and services have substituted for leisure and unpaid housework. The success of new products this year, such as expensive high-power vacuum cleaners designed to save time, and new services, including the spread of convenience stores, provide anecdotal evidence of these trade-offs.

The Future

Older Japanese and Americans share at least two laments: the young do not work hard enough and they save too little. Senior citizens in both countries fear for their nation's future. The lack of a work ethic is open to question, as noted earlier. With two-income young households on the rise in Japan, at least the young are putting in more hours on the job, although whether they are working as hard as their parents is more problematic.

Young Japanese, especially, are often viewed as particularly profligate, indulging in gold-flaked sushi, expensive foreign travel, personal electrical appliances of all kinds and putting away next to nothing for a rainy day. Juppies (Japanese urban professionals) and DINKs (double income, no kids) have entered the Japanese lexicon. What is the reality?

The national survey of family income and expenditure, last taken in 1984, looked at DINK behavior, although it did not use the word. It showed that couples without children where the wife worked outside the home and the husband was under age 34 saved 22.2 percent of their disposable income, above the national average. Of course, the situation could have changed since then; the survey is next scheduled for 1989.

More generally, however, the family income and expenditure survey indicates that savings may be dropping slightly among the young. The years 1976, 1985 and 1986 had almost identical rates of savings among workers' households in general at 22.6 percent, 22.5 percent and 22.6 percent of total disposable income. Among those aged 25-29, however, the savings rate dropped from 20.2 percent in 1976 to 19.8 percent in 1985 and 18.1 percent in 1986.

If, as they get older, these young consumers continue to save less than their elders did at the same age and if their younger brothers and sisters copy their behavior, Japan's savings rate will drop eventually. This pattern, however, will take years to show up as a macroeconomic phenomenon.

Conclusion

As the Japanese economy has grown, consumer spending, always a critical component of the economy, has grown along with it. Japanese consumers have enjoyed the benefits of being able not only to buy more goods and services but a widening variety of both. Whether, as is sometimes argued, they are starting to spend a higher percentage of what they earn is not at all clear; increases in consumer spending are mostly a result of higher incomes, not a different psychology. In any case, reduced leisure time is cutting the gain in the standard of living. Furthermore, housing remains the Achilles' heel of Japanese living standards.

Americans, of course, have a stake in what the Japanese consumer does. Japan's households have, in effect, been asked to lend a hand in resolving the frictions stemming from stubborn trade imbalances that, in turn, reflect consumer behavior in both countries. Whether Japanese consumers decide to go on a spending spree or cling tightly to their hard-earned yen, their decisions will be felt across the Pacific.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

A Two-Part Report: A and B

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Tax Reform Passes Lower House

After using its majority to force consideration of tax reform proposals by the lower house of the Diet, the Liberal Democratic Party turned to concessions and modifications to win the cooperation of opposition parties and pave the way for passage by the lower house November 16 of the six-bill package. The LDP then again used its majority to extend the special Diet session by 34 days until December 28 to give the upper house time to consider the legislation. Although lower house approval of the controversial tax reforms is considered a political victory for Prime Minister Noboru Takeshita, he is still concerned over the chances for upper house passage.

After nearly four months of negotiations, the LDP's package emerged from the lower house relatively unscathed. It envisions tax reductions of Y5.6 trillion ($44.8 billion at Y125=$1.00) in FY 1990, composed of changes in:

- National personal income taxes - Trimming the number of brackets retroactive to January 1, 1988 from 12 to five with a top rate of 50 percent for incomes above Y20 million ($160,000) compared with the current maximum of 60 percent for incomes over Y50 million ($400,000). Taxpayers at the low end also will benefit (see Table 1a): the bottom rate will drop to 10 percent from 10.5 percent and will apply to incomes of less than Y2 million ($16,000) instead of Y1.5 million ($12,000). Personal exemptions plus credits for dependents, senior citizens and handicapped people also will be increased starting January 1989 (Table 1b). In order to gain the cooperation of opposition parties, the LDP made two last-minute changes: the tax deduction for an invalid elderly will be raised from Y900,000 ($7,200) to Y1.2 million ($9,600); and the tax-exempt amount of retirement income will be raised from Y10 million ($80,000) to Y15 million ($120,000).

Table 1: National Personal Income Tax Changes

a. Tax Rates
(effective January 1, 1988)
(in millions of yen and percent)

	1987			1988	
	Income	Rate		Income	Rate
Under	Y1.5	10.5%	Under	Y2.0	10.0%
Over	1.5	12.0			
	2.0	16.0	Over	2.0	20.0
	3.0	20.0			
	5.0	25.0			
	6.0	30.0		6.0	30.0
	8.0	35.0			
	10.0	40.0		10.0	40.0
	12.0	45.0			
	15.0	50.0		20.0	50.0
	30.0	55.0			
	50.0	60.0			

b. Credits
(effective January 1, 1989)

	1988	1989
1. Basic Exemption		
Spouse	Y330,000	Y350,000
Dependent	330,000	350,000
2. Additional Spousal Credit	165,000	350,000
3. Additional Exemption for Dependents, Ages 16-22	---	100,000
4. Special Exemptions		
Handicapped	250,000	270,000
Widow	250,000	270,000
Working Student	250,000	270,000

- Local personal income and residence taxes - Decreasing the number of brackets and cutting the maximum rate, also retroactive to January 1988 (see Table 2). Combined with the cuts at the national level, these changes will total an estimated Y3.1 trillion ($24.8 billion) in FY 1990.

Table 2: Local Income and Residence Taxes

(effective January 1, 1988)
(in millions of yen and percent)

	1987			1988	
	Income	Rate		Income	Rate
Income Tax					
Under	Y0.6	3.0%	Under	Y1.2	3.0%
	1.3	5.0			
	3.0	7.0			
	4.5	8.0		5.0	8.0
	9.0	10.0	Over	5.0	11.0
	20.0	11.0			
Over	20.0	12.0			
Residence Tax					
Under	Y1.3	2.0%	Under	Y5.0	2.0%
	3.0	3.0	Over	5.0	4.0
Over	3.0	4.0			

Table 3: Inheritance and Gift Taxes

(effective January 1, 1988)
(in millions of yen and percent)

	1987	1988
1. Minimum taxable inheritance		
Basic minimum	Y20	Y40
Statutory heir (per person)	4	8
2. Maximum inheritance tax rate	75%	70%
3. Entire legal inheritance of surviving spouse is exempt.		
4. Number of adopted children will be limited to:		
one if there is a natural child		
two if there are no natural children		
5. Land purchased up to three years before death will be valued at the transaction price, not the book value.		
6. Special rates for small real estate holdings (less than 200 square meters)		
Residential	30%	50%
Business	40	60

- Inheritance and gift taxes - Reducing the top tax rates and increasing the minimum taxable amounts (see Table 3). Partly in response to the sharp increase in land prices over the past few years, the Tax System Research Council recommended the first significant changes in inheritance and gift taxes in 13 years. Retroactive to January 1, 1988, the top rate will be reduced to 70 percent from 75 percent on estates above Y500 million ($4 million) and gifts above Y70 million ($560,000). The minimum taxable estate and individual inheritance will double to Y40 million ($320,000) and Y8 million ($64,000), respectively.

- Corporate income taxes - Cutting the maximum corporate rate in two steps until it reaches 37.5 percent in FY 1990, compared with the present 42 percent maximum. The rate for small- and medium-sized businesses will drop from 30 percent to 28 percent by FY 1990 (see Table 4).

Table 4: Corporate Income Tax Changes

a. Tax Rates
(in percent)

	FY 1988	FY 1989	FY 1990
Basic Rate			
Reserves	42%	40%	37.5%
Dividends	32	35	37.5
Small- and Medium-Sized Firms			
Reserves	30	29	28
Dividends	24	26	28
Public Corporations*			
Reserve	27	27	27
Dividend	25	25	27

*Includes cooperative associations and other special organizations.

b. Other Changes

1. A portion of dividend income will be counted in gross receipts: 0 percent in FY 1988, 10 percent in FY 1989 and 20 percent in FY 1990.

2. The ceiling on the value of assets that can be fully depreciated in one year will be raised from Y100,000 to Y200,000.

3. Foreign taxes:

   a. Half of any foreign income not subject to foreign tax will be deducted from total foreign income, but the maximum ratio of foreign to total income is 90 percent.
   b. Foreign taxes paid above the usual level will not be deductible.
   c. The carryover period for losses or gains will be reduced from five years to three years.

In exchange for these reductions, the government hopes to raise by FY 1990 a net Y3.2 trillion ($25.6 billion) in revenues through the following changes:

- Corporate taxes - Keeping a closer watch on corporate tax returns and eliminating some tax exemptions by FY 1990, the tax office hopes to gain Y600 billion ($4.8 billion).

- Capital gains tax - Calculating the tax liability (at the taxpayer's discretion) by one of the following methods: 20 percent of the yield or 1 percent of the total value of the transaction (see Table 5). The impact of this change will be softened by lowering the securities transaction tax from 0.55 percent to 0.3 percent of the transaction value for stocks and from 0.26 percent to 0.16 percent for bonds. In response to the Recruit Cosmos Co., Ltd. stock scandal, the LDP also added taxes targeted at insider trading and initial private offerings. Combined with small changes in other personal taxes (such as tougher regulation of inheritance taxes), these alterations should bring in an estimated Y600 billion ($4.8 billion).

Table 5: Capital Gains Tax

1. Capital gains from securities transactions will be taxed in one of two ways at the taxpayer's discretion:
    a. Actual gains (gains minus losses in one calendar year) will be subject to a 20 percent central and a 6 percent local tax.
    b. One percent of the total transaction value will be withheld by securities brokers.

2. Restraint of insider trading:
    a. Gains from the public sale of stock within three years of its initial public offering will be subject to a 20 percent tax. This applies only to those who held the stock before the initial public sale.
    b. After the three-year period, half of any capital gain will be tax-exempt.
    c. Founders and officials of the company will be subject to an additional 1 percent tax if they profit from the public sale of their stock within one year of the initial public offering.

- General consumption tax - Adding a 3 percent tax on goods and services will raise an estimated Y5.4 trillion ($43.2 billion). Firms with annual sales of less than Y30 million ($240,000) will be exempt and those with sales under Y500 million ($4 million) will pay a reduced rate. Food will be exempt, as will a number of other transactions (see Table 6). A general consumption tax won over a value-added tax, such as that commonly used in European countries, because of the greatly reduced paperwork.

Most current commodity and other indirect taxes will be abolished, reducing revenues by an estimated Y3.4 trillion ($27.2 billion). A potentially important change for non-Japanese automakers is the decision to drop the 23 percent excise tax on full-sized cars and cut the tax on compact and minicars from 18.5 percent to 6 percent. The changes in the indirect tax structure will yield a net Y2 trillion ($16 billion) in revenue.

Table 6: Indirect Taxes

a. General Consumption Tax
(effective April 1, 1989)

1. A tax of 3 percent (6 percent for automobiles) for the first three fiscal years will be applied to all sales and service transactions (see exemptions below). Tax liability will be calculated by using existing bookkeeping records, not special invoices. Taxes will be due twice a year.

2. Small- and medium-sized businesses with sales of less than or equal to:
   a. Y30 million per year are exempt.
   b. Y500 million per year may use a fixed value-added rate of 10 percent for wholesalers and 20 percent for all others.

3. Exemptions: exports, land sales, securities transactions, foreign exchange deals, loan interest, parimutuel betting, postage stamps, medical expenses, education costs, and certain government administrative fees and social welfare payments.

b. Existing Indirect Taxes

1. The following levies will be eliminated: commodity taxes, playing card tax, sugar tax, admission tax, travel tax, electricity tax, gas tax and timber delivery tax.

2. The ad valorem tobacco tax will be abolished, but the specific tax will remain.

3. Taxes relating to petroleum will remain in place and petroleum transactions also will be subject to the general consumption tax.

4. Hotel, restaurant and local entertainment taxes will be substantially modified and subject to the general consumption tax.

- Alcoholic beverage taxes - Dropping the grading system for sake and wine, easing the grading system for whiskey and sharply reducing the levy based on alcoholic content (see Table 7). The tax on shochu, a popular local drink, will be raised by 75 percent to reduce the gap between levies on domestic and imported spirits.

In sum, the tax reform package will be stimulative, with total tax reductions outweighing increases by Y2.4 trillion ($19.2 billion). This is equivalent to 4.2 percent of the fiscal 1988 general account budget of Y56.7 trillion ($453.6 billion). Since the current budget is already 4.8 percent bigger than FY 1987's, the proposed tax changes will ensure that the public sector plays a positive role in Japan's overall economic growth at least through the end of the decade.

Table 7: Alcoholic Beverage Taxes

(in yen per kiloliter)

Product	Alcoholic Content	FY 1988	FY 1989
Sake			
Special	15%	Y570,600	Y133,700
Grade 1	15	279,500	133,700
Grade 2	15	107,900	133,700
Blended Sake	15	81,600	65,700
Shochu			
Grade A	25	78,600	119,800
Grade B	25	50,900	70,800
Mirin			
Regular	13.5	74,100	21,600
Fortified	22	63,500	34,400*
Beer	--	239,100	208,400
Wine			
Regular	--	159,800	46,300
Above grade	--	60,400	46,300
Below grade	--	49,700	46,300
Sweetened Wine	12	117,300	85,000
Whiskey			
Special	43	2,098,100	1,055,980*
Grade 1	40	1,011,400	982,300
Grade 2	37	296,200	908,620
Other Spirits	37	361,800	331,400
Liqueur			
Regular	15	367,000	106,270*
Other	12	117,300	85,000
Miscellaneous			
Distilled	--	239,100	208,400
Mirin-type	13.5	74,100	21,600
Other	12	117,300	85 000

*Base rate. Total tax will depend on actual alcohol content.

In addition to the changes in the tax treatment of invalids and retirement pay, Mr. Takeshita agreed to opposition appeals to administer the consumption tax "flexibly" between April 1 and September 30, 1989. This will probably mean that it will be phased in over this period. LDP secretary general Shintaro Abe also pledged that the LDP would try not to raise the consumption tax rate above 3 percent. On the political front, Mr. Takeshita agreed to opposition party demands for a new investigation of the Recruit Cosmos stock scandal. Fifty Diet members, drawn from all parties, will begin a fuller investigation of the matter as soon as possible.

Although the LDP holds a comfortable majority in the upper house, the opposition parties have returned to their delay-and-boycott tactics. No sooner had the 34-day extension been approved than the opposition parties began protest speeches in the Diet, halting all business. Opposition leaders want the investigation of the Recruit Cosmos scandal to receive top priority over the tax bills. The LDP already expects the FY 1989 budget process to be delayed, although the Finance Ministry still hopes to finish compiling the budget by the end of this year. It will take still more negotiations and horse-trading before the LDP can push the tax bills through the upper house, but the package is almost certain to pass at this point.

Jon Choy

Currency Traders Feast On Strong Yen

While many currency traders had headed home for Thanksgiving, those who remained had a morsel of their own to chew on. For a few moments on the eve of the American holiday, Japan's currency rose to 121.03 yen to the dollar, its highest level in the past 40 years. For those with an interest in a strong dollar, it was a depressing way to begin a holiday -- but not without precedent: the yen's previous high had been set last New Year's Eve.

A reported $5 billion worth of dollar-support measures by the Group of Seven industrial nations over two days may have been behind a slight reversal as markets swung back to full activity after Thanksgiving. Would Americans get an early holiday gift in the form of a stronger dollar? Many analysts were skeptical, for several reasons.

- Japan's current account surplus and the U.S. deficit in trade, services and unilateral transfers both remain high. While the dollar's depreciation since 1985 has helped cut the twin imbalances, many experts are convinced that another round of exchange rate revisions is necessary.

- With a new administration set to take over in Washington, international economic policy is in a state of flux. Conflicting statements from those likely to wield influence have discombobulated the currency markets. Until the new team gets its bearings, traders are wary of committing themselves to dollar-denominated assets.

- The U.S. budget deficit remains a problem. The huge capital inflows that it brings in its wake have unsettling effects on currency markets. If, as is likely, constant flows of foreign money can be induced only by ever larger interest rate differentials, foreign investors face the risk not only of currency losses if they are in dollars at the wrong time but of capital losses resulting from rising interest rates.

Ironically, this does not suggest that progress on the budget deficit would necessarily lead to a stronger dollar down the road. A diminished deficit would reduce the demand for dollars on world currency markets and, other factors being equal, bring about a weaker dollar. At the same time, progress on the deficit would reduce the role of capital flows in exchange rate determinations, which would help stabilize the dollar, albeit at a lower level.

- Partly offsetting these factors is the belief that both oil prices and U.S. interest rates are heading higher. In the past rising oil prices have been good news for the U.S. currency if not the American driver. U.S. banks added a little support of their own for the dollar the week after Thanksgiving by raising their prime lending rates half a percentage point; this may attract some foreign short-term capital and thereby increase the demand for dollars.

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JEI

REPORT

A Two-Part Report: A and B

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United States And Japan Ink FSX Agreement

The United States and Japan signed an agreement November 29 that formally launches joint development of Japan's next-generation fighter support aircraft, dubbed FSX, but problems probably will impede timely implementation. Japanese and American defense contractors have yet to resolve differences concerning which country will develop which part(s) of the aircraft. In addition, there are rumblings in Congress that this precedent-setting project will further undermine the U.S. defense industrial base. Legislators reportedly are concerned that the United States all but "gave away the store" in allowing Japan access to leading-edge aerospace technologies. They also believe that the Defense Department short-circuited the requisite assessment of the agreement's potential economic effects by not bringing the Commerce Department more fully into the decisionmaking process.

Even if General Dynamics and MHI have a meeting of the minds, Congress may prove disruptive. The memorandum of understanding is bound to act as a lightning rod for legislators concerned that weapons development arrangements with U.S. allies can hurt domestic industry by allowing foreign competitors access to leading-edge technologies. Early spring hearings are expected to address whether the U.S. defense industrial base is declining. Since the memorandum is not a treaty, Congress cannot disapprove it. However, if legislators feel the FSX deal ultimately would undermine U.S. industrial competitiveness, they could try to erect roadblocks, such as pressuring the executive branch to deny an export license for the F-16 technical specifications.

There also is concern on Capitol Hill that the Pentagon ran roughshod over Commerce in negotiating the memorandum. A provision of the FY 1989 defense authorization act requires DOD to consult with Commerce before signing memoranda of understanding. Although the Pentagon reportedly briefed Commerce on the nature of the agreement, Commerce contends that it was not given a copy of the actual document. Thus, legislators may propose measures that would tighten the reins on the Pentagon by requiring additional oversight of all memoranda of understanding, possibly including the FSX.

Barbara Wanner

Housing Market Weakens In Japan

For years, Japanese dwellings have been denigrated as "rabbit hutches," a foreign observer's famous phrase that made an indelible impression on the Japanese consciousness. Improving the quality of Japanese housing has been a goal of one Japanese government after another, but for years progress was slow. Between 1981 and 1983 residential construction languished (see Table).

By some measures housing starts began picking up in 1984. In 1987 the pace quickened dramatically after Tokyo adopted an economic stimulus package designed in part to offset weak external demand resulting from the yen's appreciation. Expansionary monetary policies and other measures were designed to shift the focus of economic growth to domestic demand, including housing. Private residential construction soared on cue, arguably helped along by years of pent-up demand, and played an important role in the early stages of Japan's current economic expansion. Private housing investment surged 20.6 percent in price-adjusted terms and contributed a full percentage point to 1987's real gross national product growth of 4.3 percent.

Linkages to the rest of the economy suggest that the figures may, if anything, understate the role of residential construction in economic growth in 1987 and early 1988. For example, both buyers and renters need to furnish their new homes, thereby creating demand for furniture and appliances. Aggregate consumer demand also gets a boost as construction firms and workers spend their proceeds.

About half the new units built in Japan each year are rental units. As the table shows, rental construction has been especially strong in recent years, more than doubling in annual starts between 1983 and 1987. Starts of owner-built units, while up 14.5 percent in 1987, still trailed 1981 and 1982 levels.

Housing Starts in Japan

(year-to-year percent change)

		Rental Units	Owner-Built Units	Total
1981		-4.7%	-7.3%	-9.1%
1982		3.8	4.7	-0.5
1983		25.1	-18.0	-0.8
1984		17.7	-1.9	4.4
1985		13.5	-1.1	4.1
1986		22.5	2.7	10.4
1987		33.0	14.5	22.7
1988	January	16.3	27.2	19.0
	February	17.2	21.5	17.1
	March	20.3	3.3	14.8
	April	6.9	-12.9	2.0
	May	12.0	-13.4	4.2
	June	4.0	-9.5	1.9
	July	-3.0	-10.9	-1.9
	August	0.2	-9.7	2.2
	September	-11.8	-11.8	-7.0
	October	-11.1	-11.2	-8.5

Note: The total figure includes developer-built units and other.

Source: Ministry of Construction

Now the bloom is off the rose of all kinds of housing, probably a result of high land prices and the satisfaction of some bottled-up demand. By August monthly starts were up a scant 2.2 percent compared to August 1987. The news for September and October was even worse, with starts down 7 percent in September and 8.5 percent in October.

Will housing, which played an important role in pulling Japan out of the high yen doldrums, repeat the pattern in reverse? The latest GNP figures regarding housing are not encouraging. The decline in seasonally adjusted private housing investment in the April-June quarter accounted for two-thirds of the 0.8 percent dip in the quarter-to-quarter real economic growth rate, while the housing sector contributed only one-sixth of July-September's 2.2 percent expansion.

Katsushige Mita, president of Hitachi, Ltd., which counts home appliances among its many products, is among the business leaders worried about the effects of weakening housing demand on their companies. While consumer spending and housing are less related in Japan than they are in the United States, where the houses are larger and the furnishings more extensive, a serious slump in Japanese housing investment could nudge consumer spending downward.

The consensus, however, is that this will not be a problem. Most forecasters expect the economy to continue on a steady expansion path. Consumer spending is expected to rise, with or without the help of housing. For the Japanese living in less than world-class houses, the home construction slump suggests they will have to postpone the day they move into their dream home, but at least they will be able to afford the gadgets and furnishings that will give their current dwelling a fresh look.

Douglas Ostrom

No Pension Until Age 65, Japanese Panel Recommends

After urging companies for years to raise the retirement gate only after an employee turns 60 years old -- instead of the once-traditional pasturing age of 55 -- Tokyo figures the time has come to push a new retirement age, 65. Although the government set 65 as its informal target for retiring workers when Japan's pension laws were revised in 1985, employers have moved slowly toward that ideal. In Japan the age at which retirement is required often is earlier than the age for pension eligibility. Thus, in trying to move the age at which a person can get a pension, the government indirectly is promoting longer work lives. The revised law set 65 as the age when some workers received "basic benefits" under the national pension scheme, but 60 was the golden age for others, depending on their jobs. The changes also formalized another tier of benefits, which are earnings-related -- similar to American company or union pensions.

Now Tokyo has received a recommendation intended as backdoor encouragement for organizations to keep employees on the job until age 65. A panel formed by the Health and Welfare Ministry has recommended a phased-in increase in the age at which workers can receive national pension benefits (the equivalent of America's social security). By the year 2010 all men would have to be age 65 before they receive the benefits. The law sets 2015 as the year in which female pension recipients would have to be at least 65.

Labor unions, which had long been among those clamoring for the retirement age to be boosted to 60, are reluctant to endorse delayed pension payouts because more than one-third of the nation's workers still face job provisions requiring retirement or a downgraded job status at an age younger than 60. Nihon Keizai Shimbun reported that a leader of the Japanese Private Sector Trade Union Conference (Rengo) said 40 percent of all Japanese companies have yet to boost their retirement age to 60 or more. If the national pension were not available until age 65 -- and if a retiree had no company pension -- personal savings might be depleted before that age. The newspaper noted, however, that the government is likely to act without labor's consensus, partly out of concern about the drain on the pension fund caused by an increasing number of senior citizens eligible for benefits.

Japan's retirement system may sound strange to Americans, accustomed to the age of 65 being a typical time to hang up the work gloves. At 65 full social security payments generally become available, although lower payments are available at 62 and exceptions are made for those who retire from disability at an earlier age. In Japan, however, retirement fits into a multilayered employment system that varies depending on the size of the company and the person's role within that company. Since large Japanese firms traditionally have paid and offered promotions based on seniority, a company with too many "senior" employees is paying larger salaries than younger-oriented firms; in addition, it has little room to promote. Thus, mandatory retirement rules lend flexibility to a firm that is otherwise locked into a rigid employment system.

But retirement does not necessarily mean that an employee quits working. One option for the retiree may include working for the old firm in a reduced capacity and at reduced pay, rather like a professional football player moving into a subordinate coaching position. Or perhaps the ex-company worker might move to a smaller company, sometimes one receiving a subsidy from either the government or his former employer to find a position for him. If the gap between his retirement date and the start-up of his national pension benefits is too wide and if the retiree has no offers from other companies, he may try to set up his own business with financial assistance from the government.

By pushing a delayed retirement age of 65, Tokyo is attempting to plan for a future where those over the age of 60 make up one-fourth of the population (see JEI Report No. 12A, March 27, 1987). The government actually faces a triple problem since all those who end up discharged because of their age also are eligible to receive basic pension benefits, yet fewer workers will be contributing to the annuity pool. In fact, some forecasts say that as few as two workers will support each retired person in the 21st century compared to figures ranging from five to seven workers per retiree now.

Japan's revision of the national pension program in 1985 addressed the problem of a larger pool of recipients in part by providing for lower payouts, from roughly 83 percent of the worker's average annual pay (excluding bonuses) to 68 percent for workers with at least 40 years of participation in the system. By delaying the payment of basic pension benefits until age 65, Tokyo would control costs even further. The Nihon Keizai Shimbun article also noted that more people are expecting to face added contributions to the fund -- an estimated 14.6 percent of their pay compared to the current 12.4 percent.

Tokyo's head-on confrontation of Japan's pension situation has led at least one U.S. researcher, James H. Schulz of Brandeis University, to look at Japan's responses to see if the United States can learn any lessons. Mr. Schulz, whose work was funded by a grant from the Administration on Aging in the Department of Health and Human Services, looked at Japanese laws on retirement and pension programs in addition to the variety of programs used to help people keep working who want to work. With life expectancy in Japan the highest in the world at 75.6 years for men and 81.4 years for women, workers discharged at age 60 face many still-productive years in retirement.

Pat Murdo

Washington And Tokyo Bolster Superconductor Research

As the initial excitement over the 1986 discovery of high-temperature superconductors fades, both Tokyo and Washington are taking steps to speed the commercialization of this new technology. Broad application of these materials, which conduct electricity with no loss of energy at economical temperatures, promises to revolutionize almost every facet of everyday life. The commercial potential is clearly very great, and both the United States and Japan see HTS technology as critical to industrial leadership in the next century.

Despite the great potential, American companies have been cautious in allocating research and development funds for HTS projects. The financial risks and technical uncertainties are apparently great enough to dissuade most American corporations from plunging into the field. A handful of large U.S. corporations with deep pockets and some small venture capital start-ups represent the American private sector's efforts in this emerging technology. The opposite situation exists in Japan. A wide range of companies has seized on HTS materials as the key to a competitive edge, and they have avidly redistributed research budgets accordingly. Studies by the Office of Technology Assessment, an arm of Congress, and the National Science Foundation, an independent agency, show Japan investing far more toward commercializing HTS materials than the United States. NSF estimates that Japanese companies are outspending U.S. companies in this area by $146 million to $97 million in fiscal year 1988, and that 82 percent of all Japanese companies surveyed were working on HTS processing techniques.

In response to this situation, Congress passed legislation this fall that could hasten HTS commercialization in the United States. The law, which President Reagan quickly signed, is aimed at improving the flow of information between government research programs and private companies (see Table 1). In particular, the research conducted at national laboratories will be made available for commercialization. Research at these facilities is defense-oriented, but many commercial spinoffs are certainly possible. By attempting to forge a closer relationship between government and industry in precommercial research and development, Washington hopes to cure an apparent U.S. weakness in turning basic discoveries into final products.

With private Japanese firms carrying the ball on commercialization of HTS materials, the Ministry of International Trade and Industry is focusing on areas that are technologically or financially riskier or require a broader perspective. MITI's FY 1989 budget request for HTS research illustrates this focus. MITI plans to devote funds to basic research as well as efforts to develop international standards to measure the efficiency of HTS materials, exploratory surveys on potential uses for HTS materials, and international cooperative research and development (see Table 2).

It is clear that both Washington and Tokyo see the need to support private-sector efforts in this field. Whether their efforts will bear fruit -- and how much international cooperation takes place -- will not be known for several years.

Jon Choy

Table 1: Summary of the National Action Plan on Superconductivity Research and Development*

I. The Director of the Office of Science and Technology Policy shall establish a five-year National Action Plan on Advanced Superconductivity Research and Development. The plan shall include:

1. Research goals and priorities for each agency involved.

2. Assignment of research responsibilities among participants.

3. Recommendations on superconductivity research funding levels over the entire five-year period.

4. Proposals for participation by industry and academia in the planning and implementation of the action plan.

II. Participants

1. Department of Energy - The Secretary of Energy shall conduct a superconductor research and development program; shall submit regular reports on technology transfer activities; and shall make recommendations regarding improving the transfer of technology between government and industry, and in the management of research results made at national laboratories.

2. National Institute of Standards and Technology - NIST shall promote fundamental research and materials standards to accelerate the use and application of new superconductors. The Superconductivity Center Focusing on Electronic Applications shall be fully utilized.

3. National Science Foundation - The NSF shall promote fundamental research in pursuance of this Act.

4. National Aeronautics and Space Administration - NASA shall utilize all existing programs to promote commercial applications of high-temperature superconductors, including applications relating to thin-film technology, communications, sensors, space power and propulsion.

5. Department of Defense - The Secretary of Defense shall give emphasis to fundamental research, materials processing, and applications of new superconducting materials. In conducting research, DOD shall:

   a. Systematically define the engineering parameters for high-temperature superconductors.
   b. Conduct the necessary development, engineering and operational prototype testing considered appropriate to its mission.

The Defense Advanced Research Projects Agency - DARPA shall augment basic and applied superconductivity research in other federal agencies and industry and develop criteria for operation prototype testing within DOD.

III. International Cooperation

The president shall establish a program of international cooperation in basic superconductor research. It shall include the exchange of basic information and data, as well as the development of international standards for the use and application of these materials.

IV. Technology Transfer

1. All federal departments and agencies shall conduct technology transfer activities as appropriate to:

   a. Complement basic superconductivity research by promoting the rapid development of manufacturing and processing technologies necessary for commercialization.
   b. Promote collaborative arrangements and consortia of industry (including small business) in order to lower the barriers to deployment of advanced high-temperature superconductor technology. The consortia can include universities and independent research organizations.

2. The Director of OSTP, in collaboration with the Secretaries of Commerce and Energy, shall identify those federal policies and regulations which impede the ability of the private sector to undertake long-term investment programs to commercialize superconductivity applications.

*From the National Superconductivity and Competitiveness Act of 1988 (HR 3048).

Table 2: Outline of MITI's Proposed FY 1989 Superconductivity Research Budget

(in millions of yen)

Program	General Account	Special Account*	Total
1. Development of high- and room-temperature superconducting materials and new manufacturing/process techniques	Y560	Y800	Y1,370
a. Next Generation Basic Industrial Technologies			
Current HTS materials	460	800	1,270
New HTS materials	60	0	60
b. HTS research at national laboratories	40	0	40
2. Development of HTS materials for electronics	880	0	880
a. Next Generation Basic Industrial Technologies	610	0	610
b. Large-scale manufacturing technologies	260	0	260
c. International cooperation on HTS; standards harmonization	10	0	10
3. Broadening the use of HTS materials			
a. Large-scale energy technology	90	1,910	2,000
4. Surveys of HTS research and applications	0	220	220
a. Energy storage and machinery technologies	0	80	80
b. Electricity generation technologies	0	140	140
5. International joint development of HTS**	10	0	10
Total	1,540	2,940	4,448

*Special Account for the Promotion of Electric Power Resources Development.
**Identical program as 2c but funding is split for budget purposes.

Note: Figures may not add due to rounding.

Source: Ministry of International Trade and Industry

STATISTICAL SUPPLEMENT

Trade and Payments Data

(in millions of dollars unless otherwise indicated)

	1986	1987	January-September 1987	January-September 1988	July 1988	August 1988	September 1988
Japan's Balance of Payments							
Trade Balance	$92,827	$96,386	$71,996	$67,383*	$8,764*	$6,343*	$8,807*
Exports (f.o.b.)	205,591	224,605	162,938	188,829*	22,810*	20,417*	22,698*
Imports (f.o.b.)	112,764	128,219	90,942	121,446*	14,046*	14,074*	13,891*
Current Account Balance	85,845	87,015	64,913	56,064*	6,480*	4,991*	7,605*
Long-Term Capital (net)	-131,461	-136,532	-98,597	-93,661*	-18,409*	-12,809*	-10,745*
Overall Balance	-44,767	-29,545	-11,119	-29,259	-15,837	-5,571	3,158
International Reserves (end of period)	42,239	81,479	72,139	91,151	88,908	90,222	91,151
Japan's Customs Clearance Trade							
Trade Balance	82,743	79,706	59,547	53,494	7,156	4,935	7,753
Exports (f.o.b.)	209,151	229,221	166,250	192,668	23,155	20,854	23,179
Cars	32,945	35,693	26,379	28,170	3,422	2,687	3,275
Steel	12,706	12,610	9,052	10,948	1,304	1,316	1,295
Imports (c.i.f.)	126,408	149,515	106,703	139,174	15,999	15,919	15,426
Crude Oil	19,481	20,663	14,892	14,825	1,796	1,339	1,168
Manufactured Products	52,781	65,961	42,712	62,833	7,095	7,395	7,444
Japan-U.S. Trade							
Trade Balance	51,401	52,090	37,980	33,326	4,492	3,249	4,656
Exports (f.o.b.)	80,456	83,580	60,810	64,528	7,961	6,985	8,114
Imports (c.i.f.)	29,054	31,491	22,830	31,202	3,470	3,736	3,458
Yen-Dollar Exchange Rate (average for period)	Y168.52	Y144.64	Y143.00	Y134.44	Y133.07	Y133.63	Y134.44
U.S. Trade							
Trade Balance	-156,156	-171,217	-128,166	-102,396	-11,036	-12,741	-10,498
Exports (f.a.s.)	226,808	252,866	182,513	236,628	26,051	26,588	27,441
Imports (c.i.f.)	382,964	424,082	310,679	339,024	37,087	39,329	37,939
U.S.-Japan Trade							
Trade Balance	-58,575	-59,825	-44,321	-39,245	-4,436	-4,751	-4,084
Exports (f.a.s.)	26,882	28,249	20,218	27,943	3,229	3,267	3,245
Imports (c.i.f.)	85,457	88,074	64,539	67,187	7,665	8,018	7,329

*Preliminary

A

STATISTICAL SUPPLEMENT

Japanese Economic Indicators

(percent change from year-earlier period unless otherwise indicated)

	1986	1987	January-September 1987	January-September 1988	July 1988	August 1988	September 1988
Discount Rate (end of period)	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Outstanding Money Supply	8.7%	10.4%	9.9%	11.4%	11.1%	10.9%	10.6%
Industrial Production	-0.2%	3.4%	1.8%	10.0%	7.9%	10.3%	9.3%
Manufacturing Operating Rate	-4.6%	0.1%	-1.9%	6.4%	5.7%	7.0%	6.5%
Number of Bankruptcies	-7.1%	-27.6%	-25.5%	-21.3%	-27.9%	-17.8%	-24.5%
Residential Construction Starts	10.4%	22.7%	22.1%	4.5%	-1.9%	-2.2%	-7.0%
Job Openings to Applications (ratio)	0.62	0.70	0.66	0.98	1.09	1.07	1.08
Nominal Wages	2.7%	1.9%	1.7%	3.4%	2.6%	6.2%	4.1%
Manufacturing Labor Productivity	1.9%	5.8%	2.5%*	12.7%*	n.a.	n.a.	n.a.
Wholesale Prices	-9.1%	-3.7%	-4.8%	-0.9%	-0.9%	-1.0%	-0.9%
Consumer Prices	0.6%	0.1%	-0.1%	0.5%	0.5%	0.7%	0.6%
Yen-Based Export Prices	-15.1%	-5.1%	-4.9%	-2.9%	-2.6%	-1.2%	0.6%
Yen-Based Import Prices	-35.8%	-8.3%	-11.2%	-3.8%	-4.3%	-5.4%	-3.8%

*Through June of each year only.

For Japan's most recent GNP figures, see JEI Report No. 37B, September 30, 1988.

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JAPAN · ECONOMIC · INSTITUTE
JEI
REPORT

A Two-Part Report: A and B

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Japanese Economy Sizzles

The story is becoming familiar. Japan's economy, having long ago shaken off the effects of the soaring yen, continues its surge. Gross national product grew at an inflation-adjusted 9.3 percent annual clip between July 1 and September 30, a rate onlookers in other industrialized countries like the United States can only envy. The April-June quarter's dip of 3.3 percent annualized clearly was revealed as a statistical aberration. The latest figures were enough to put the summer quarter 5.6 percent ahead of the year-earlier pace, maintaining a pattern of roughly constant year-to-year expansion in the face of fluctuating quarterly growth rates.

The star of the show continued to be plant and equipment investment. Japanese firms, confident that they have escaped the dragons of inflation and exchange rate appreciation, continue to modernize and expand their facilities at a dizzying pace. Such investment surged at a real annualized rate of 18.6 percent in the quarter and contributed 0.9 percentage point to the overall

Japan's Real Gross National Product at Constant (1980) Prices

(in billions of yen, seasonally adjusted, quarterly totals and rates of growth at annual rates)

	FY 1986	FY 1987	October-December 1987	January-March 1988	April-June 1988	July-September 1988
Gross National Product	Y301,833.8 (2.7%)	Y317,589.4 (5.2%)	Y319,940.4 (7.1%)	Y327,750.6 (10.1%)	Y324,982.8 (-3.3%)	Y332,284.6 (9.3%)
Personal Consumption Spending	168,933.2 (3.4%)	176,575.8 (4.5%)	176,966.2 (3.8%)	180,839.0 (9.0%)	182,010.8 (2.6%)	184,581.3 (5.8%)
Private Residential Construction	15,634.1 (11.0%)	19,631.1 (25.6%)	21,144.4 (55.1%)	21,541.1 (7.7%)	19,682.3 (-30.3%)	20,874.8 (26.5%)
Private Fixed Nonresidential Investment	56,213.6 (4.3%)	61,812.5 (10.0%)	62,602.3 (15.7%)	65,130.8 (17.2%)	68,143.0 (19.8%)	71,116.1 (18.6%)
Change in Business Inventories	1,024.4 (*)	1,274.0 (*)	1,667.2 (*)	1,438.7 (*)	2,043.0 (*)	1,799.1 (*)
Government Current Expenditures	28,882.7 (6.3%)	28,637.2 (-0.9%)	28,570.8 (0.7%)	28,835.0 (3.8%)	28,990.9 (2.2%)	29,175.9 (2.6%)
Government Fixed Investment	22,247.0 (7.0%)	24,466.8 (10.0%)	24,825.7 (24.2%)	25,809.5 (16.8%)	25,189.5 (-9.3)	24,735.9 (-7.0%)
Change in Government Inventories	856.4 (*)	45.3 (*)	-185.2 (*)	415.9 (*)	119.5 (*)	-225.9 (*)
Net External Sector	8,042.4 (-34.5%)	5,146.7 (-36.0%)	4,349.0 (-83.5%)	3,740.6 (-45.3%)	-1,196.2 (-99.0%)	227.4 (*)
Exports of Goods and Services and Factor Income Received	52,692.8 (-3.6%)	55,415.8 (5.2%)	55,666.1 (-1.4%)	57,573.7 (14.4%)	55,377.6 (-14.4%)	60,372.4 (41.3%)
Imports of Goods and Services and Factor Income Paid	44,650.5 (5.4%)	50,269.1 (12.6%)	51,317.1 (19.9%)	53,833.1 (21.1%)	56,573.8 (22.0%)	60,145.0 (27.7%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

quarterly growth rate of 2.2 percent. Investment was up 11.8 percent over the same quarter a year earlier, which itself had climbed 8.8 percent over July-September 1986. Such spending not only boosts the GNP growth rate when it occurs but assists in suppressing inflation and maintaining international competitiveness by making firms and the economy generally more productive, which raises GNP over the long term.

Some sectors, however, seem to have switched roles for the July-September quarter's performance, with exports the most obvious example. For most of the past two years, exports either declined or stayed constant on a quarter-to-quarter basis. In the latest GNP report, by contrast, overseas shipments were among the strongest performers, jumping at a 41.3 percent annual rate and contributing 1.5 percentage points to the overall quarterly growth rate. Had exports stayed constant and other factors remained equal, Japan's annualized growth rate would have been only 2.8 percent rather than the actual rate of 9.3 percent.

Staying closer to their recent role, imports continued to surge, thereby shaving 1.1 percentage points off the overall growth rate. Taking exports and imports together, the effect was to boost the quarterly growth rate 0.4 percentage point, the largest contribution since the first quarter of 1987.

Government spending, a source of growth in the economy during most of the past two years, declined for the second quarter in a row. A cut in government investment, which in 1987 benefitted from a major fiscal expansion package, more than offset a modest increase in current expenditures.

Private residential construction rebounded from the precipitous drop it had shown last spring but not enough to recover to the levels that prevailed late last year, lending credence to experts who see housing starts at a plateau. Personal consumer spending, the largest component of the economy, grew at a slower rate than the overall average. The consumer, who has received generous credit for keeping Japan's expansion on track, is in fact playing a passive role, increasing spending roughly in step with income gains (see JEI Report No. 45A, December 2, 1988).

Few economists anticipate a pickup in inflation, even though that might normally be expected considering the strength of demand. Rising imports, the yen's renewed strength and still low oil prices all have helped keep consumer price increases to barely 1 percent per year despite the high GNP growth rate.

For the immediate future, at least, experts expect economic growth to continue. At the midpoint of Japan's 1988 fiscal year, Tokyo's outlook for 3.8 percent real growth for the year ending March 31, 1989 is within easy reach. So despite some characters playing unaccustomed roles, the overall performance of the Japanese economy continues to dazzle.

Douglas Ostrom

Tokyo Urged To Continue Administrative Reform

The Ad Hoc Administrative Reform Promotion Council has recommended to Prime Minister Noboru Takeshita that the government promote gradual deregulation of politically sensitive areas, such as the sale of rice in Japan. The

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JAPAN AND SOUTHEAST ASIA: AN UPDATE

Summary

Members of the Association of Southeast Asian Nations experienced rapid economic expansion in 1987 and 1988. Growth, however, was unevenly distributed. Some economies boomed, such as Singapore's and Thailand's. Other countries, such as Indonesia, registered only moderate growth. While opportunities continue to open for Asean, some members complain of the unequal benefits of association. Despite difficulties, however, Asean remains viable, with other Southeast Asian countries seeking membership.

Japan maintains strong economic ties with the Asean countries. Its two-way trade with the six members represented roughly 10 percent of combined Japanese exports and imports in 1987 and the first nine months of last year. Japanese corporate investors are putting an increasing amount of money into the region, including $1.5 billion in direct investment in FY 1987. Moreover, Asean remains a focal point of Tokyo's aid program, accounting for nearly one-third of disbursements in 1987.

Overview

Japan's economic relationship with the Association of Southeast Asian Nations -- an economic and political grouping that includes Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand -- has three major facets: trade, foreign direct investment and foreign aid. All three linkages have been strengthened in the last two years. The ties are essential for the economic vitality of Asean as well as for Japan, which has a traditional interest in the area. The phenomenal success of postwar Japan has made it possible for Tokyo to serve as both benefactor and role model for Asean.

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Trade - Japan traditionally has run a large trade deficit with the six Asean countries, mainly because of its substantial purchases of mineral fuels from the group -- crude oil and petroleum products from Indonesia and, to a lesser extent, Malaysia, plus refined oil products from Singapore and liquefied methane gas from Indonesia, Malaysia and Singapore. The imbalance reached a record $9 billion in 1985 before dropping to $4.4 billion the next year and then to $4 billion in 1987 (see Table 1), in part because of the favorable

Table 1: Japan's Trade with Asean, 1984-88

(in millions of dollars; exports f.o.b., imports c.i.f.)

	1984	1985	1986	1987	Nine Months 1988
Brunei					
Exports	$72	$90	$58	$41	$50
Imports	2,203	1,892	1,285	1,184	885
Trade Balance	-2,131	-1,802	-1,227	-1,143	-835
Indonesia					
Exports	3,073	2,173	2,662	2,990	2,229
Imports	11,176	10,119	7,311	8,427	7,377
Trade Balance	-8,102	-7,947	-4,649	-5,437	-5,148
Malaysia					
Exports	2,875	2,168	1,708	2,168	2,134
Imports	4,412	4,330	3,846	4,772	3,542
Trade Balance	-1,537	-2,162	-2,137	-2,604	-1,408
Philippines					
Exports	1,080	937	1,088	1,415	1,249
Imports	1,419	1,243	1,221	1,353	1,530
Trade Balance	-339	-307	-133	62	-281
Singapore					
Exports	4,610	3,861	4,577	6,008	6,018
Imports	1,775	1,594	1,463	2,048	1,741
Trade Balance	2,835	2,267	3,113	3,961	4,277
Thailand					
Exports	2,426	2,030	2,030	2,953	3,619
Imports	1,040	1,027	1,391	1,796	1,938
Trade Balance	1,385	1,004	639	1,157	1,681
Total Asean					
Exports	14,134	11,257	12,123	15,574	15,299
Imports	22,024	20,205	16,517	19,579	17,013
Trade Balance	-7,887	-8,948	-4,394	-4,005	-1,714

Source: Japan Tariff Association, The Summary Report: Trade of Japan

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impact of the dollar's weakening value on imported oil and gas prices. The decline in international oil prices in 1988 helped to narrow the gap further, reducing it to $1.7 billion in the first three quarters of the year from $2.9 billion in the same period of 1987, but a bigger factor was another jump in Japan's exports to the Asean members, particularly to Singapore and Thailand.

The downward trend in Japan's trade deficit with Indonesia, Malaysia and the Philippines over the last three years and the simultaneous increase in Japan's trade surplus with Thailand obviously have made it harder for these four countries to get a handle on their external debt problems. While this has added an undercurrent of tension to the Japan-Asean relationship, Asean's main trade gripe remains the composition of Japan's imports from the region (see Table 2, and for comparison see Table 3, Japan's exports to Asean). Asean officials repeatedly charge that Japan continues to regard the six-country group merely as a source of agricultural commodities and industrial inputs (including not only oil and gas but such other materials as iron ore, nonferrous scrap, rubber and wood) rather than as a supplier of a fast-expanding list of manufactured products. Manufactures, they add, made up just 16.8 percent of Japanese purchases from Asean in 1987 -- a far cry from the overall import ratio of 40.5 percent and a development that continues to hobble the region's attempts to build up its economic infrastructure and manufacturing capabilities.

Direct investment - With the appreciation of the yen over the past three years, Japanese companies are investing more money in production facilities in Asia. Among the favored sites are neighbors that belong to Asean. The six nations welcome the investments as a way to speed their economic development and to become the latest economic "tigers." Japan also is often seen as an appropriate model to emulate (see JEI Report No. 28A, July 22, 1988).

Illustrating their quick study in economics, the Asean nations hope that the appreciation of the yen will send Japanese manufacturers scrambling to invest in countries with lower costs of production. Equally savvy, Japanese corporate executives hope that Asean countries will offer incentive packages to companies interested in moving production offshore.

As proof of joint accommodation, Japanese direct investment in Asean countries increased significantly in FY 1987, particularly in Indonesia (see Table 4). This surge was in marked contrast to trends in the mid-1980s when Japan's annual direct investment in Asean was relatively flat or in some cases even decreased. This development had concerned Asean leaders as they saw Japanese capital bypassing a traditional area of interest in favor of the United States or Europe. In December 1988 representatives of Asean met with the Japanese in the hopes of increasing direct investment flows further.

Asean also sees Japan's direct investments as encouraging technology transfers, as well as helping to create a manufacturing base. Such technological investments are not viewed as a threat to the local manufacturing community because the Japanese plants usually produce goods for export, which are not a threat to domestic markets.

In looking for a place to invest, Japanese businesses also are closely scrutinizing regional stability. Many of the Asean countries are plagued by actual or potential political instability, including changes of government and

Table 2: Japan's Imports from Asean, 1987

(in millions of dollars)

	Indonesia	Malaysia	Philippines	Singapore	Thailand
Mineral Fuels	$6,327	$1,795	$24	$1,044	$3
Food	535	90	547	61	785
Ores and Scrap	285	108	345	39	9
Other Raw Materials	299	2,348	157	41	471
Chemicals	36	73	50	294	49
Machinery and Transport Equipment	2	92	35	317	116
Other	944	266	194	252	363
Total	8,427	4,772	1,353	2,048	1,796

Source: Japan Tariff Association, The Summary Report: Trade of Japan

Table 3: Japan's Exports to Asean, 1987

(in millions of dollars)

	Indonesia	Malaysia	Philippines	Singapore	Thailand
Machinery and Transport Equipment	$1,920	$1,442	$700	$4,116	$1,682
Metals and Metal Products	473	296	196	602	581
Chemicals	325	157	180	335	376
Textiles	71	76	112	225	75
Nonmetallic Mineral Products	35	20	50	127	28
Other	166	177	177	603	211
Total	2,990	2,168	1,415	6,008	2,953

Source: Japan Tariff Association, The Summary Report: Trade of Japan internal political struggles, as well as shifting economic fortunes. Analysts generally regard Singapore as the most politically and economically stable of the six Asean members, a view underscored by the recent growth there in Japanese investment and trade. Singapore has been trying to position itself so that it will appeal to nervous investors and emerge as a strong Asian financial center when Hong Kong reverts to Chinese control in 1997.

Table 4: Japan's Direct Investment in Asean, FY 1983-FY 1987

(in millions of dollars)

	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	Total March 31, 1988
Brunei	$2	$5	$1	$1	$---	$107
Indonesia	374	374	408	250	545	9,218
Malaysia	140	142	79	158	163	1,446
Philippines	65	46	61	21	72	985
Singapore	322	225	339	302	494	3,065
Thailand	72	119	48	124	250	1,134
Total Asean	975	911	936	856	1,524	15,955

Source: Ministry of Finance

During the 1987 Asean summit held in Manila, Prime Minister Noboru Takeshita pledged a $2 billion package of loans to the Asean nations to help them develop their industrial bases. The first country to benefit from the Asean-Japan Development Fund will be Malaysia, which is to receive a development loan of $332 million, according to a December 16, 1988 announcement.

The fund is a part of a broader Japanese effort to recycle $20 billion of its current account surplus to the Third World. Two types of loans are envisioned. Financing for joint projects by any group of countries in Asean will be made available at below-normal terms by the Export-Import Bank of Japan and the Overseas Economic Cooperation Fund. Loans to individual countries also will be provided. The Export-Import Bank will make individual loans to all six Asean nations, while the Overseas Economic Cooperation Fund will extend individual loans to only the four needier Asean countries -- Indonesia, Malaysia, the Philippines and Thailand.

The AJDF also promotes foreign direct investment in Asean joint venture projects by linking private capital from Japan with the Japan-Asean Investment Corp., a government-backed organization set up in 1981 to facilitate development of the Asean economies. The first venture created in 1988 under the JAIC selected five promising projects, including a magnetic-head manufacturing operation in Thailand. Following that success, a second investment project was being negotiated in the fourth quarter of 1988.

Foreign aid - Japan traditionally has concentrated its aid in Asia, following a 7-1-1-1 formula. According to Ministry of Foreign Affairs figures, 65.1 percent of official development assistance went to Asia in 1987 (see JEI Report No. 43A, November 11, 1988). Aid to Asean alone accounted for 32 percent of the total -- or about the same figure as in 1985 (31.3 percent) after a big drop in 1986 to only 23.8 percent of overall disbursements. As in most earlier years, the four lower-income Asean countries were among the top 10 aid recipients in 1987. Indonesia was Japan's number-one recipient, receiving $707 million in grants, loans and technical assistance. Close behind second-place China were the Philippines (third-ranked at $379 million), Thailand (sixth with $303 million) and Malaysia (seventh at $276 million).

Of Indonesia's $707 million in aid, $570.7 million was in the form of loans and $136.6 million consisted of grants and technical assistance. The loan element of the Philippines' aid was $267.6 million, while grants and technical assistance came to $111.8 million. Thailand had close to an even split, with $166.9 million in loans and $135.6 million in grants and technical assistance. The Malaysian package was comprised of $227.7 million in loans and only $48.7 million in grants and technical assistance.

Although Brunei does not normally need economic assistance from Japan, in 1987 it received $2.8 million in technical assistance, considered grant aid. Similarly, Singapore obtained $15.9 million in technical assistance and $1.4 million in grants, but it repaid $6.1 million in loans for a total of $11.2 million in Japanese ODA for 1987.

Country By Country Developments

Indonesia - Japan's direct investment in Indonesia reached $545 million in FY 1987, its highest level since FY 1982 when Japanese investors put up $2.4 billion to build a major aluminum ingot production facility. Japan continues to run a large trade deficit with Indonesia, a major supplier of oil. The deficit rose to $5.4 billion in 1987, up from the recent low of $4.7 billion in 1986. The figure for January-September 1988, $5.2 billion, indicates that Japan's trade with Indonesia was even farther in the negative column last year than in 1987.

In 1981 Indonesia and its major economic partner, Japan, began construction of an aluminum ingot plant in Sumatra. This project has caused tensions between the two countries in recent months, partly because Indonesia is seeking to alter the terms of the original contract. Currently Japan receives two-thirds of the ingot produced in Sumatra, while Indonesia gets one-third. Indonesia wants 60 percent of the output, which it plans to export to countries other than Japan. To pressure Japan into agreeing to its plan, Indonesia temporarily cancelled all shipments to Japan in July 1988. Exports from the Asahan aluminum complex began again October 8, an indication of some progress in talks between the two countries. The two sides met December 21 and 22 to discuss possible changes in the allocation formula. Earlier in the month Japan had tentatively agreed to reduce its share to three-fifths starting in January.

Complicating the dispute is the Indonesian official who helped turn the issue into an international problem. After making a public outcry charging Japan with global avarice, the Indonesian official, Abdul Rauf Suhud, chairman of Asahan Authority, which runs the project, was discovered to have helped create a downstream production company called PT Asahan Aluminum Alloys, which stands to gain handsomely from a change in the output ratios. While Indonesia's stake in the ingot project is 41 percent, Mr. Suhud believes that its quota should be larger because of the "benefits package," including tax incentives and water for electric power generation, provided by the government.

Although a few shipments of aluminum to Japan have occurred since July, the Japanese partners have been angered by Indonesia's "breach of contract." Half of the 59 percent interest Japan has in the project is owned by a group of 12 Japanese companies, while the other half is held by the Japanese government. The dispute has significantly dampened the climate in Indonesia for Japanese investment, where Japan is both the largest foreign investor and the biggest aid donor.

Nevertheless, another joint venture in the works involves the construction of two large oil refineries. In addition to Japan and Indonesia, this venture will include Saudi Arabia, which will supply 80 percent of the crude oil. Indonesia, which will provide the remaining 20 percent, has been struggling under the double burden of the fall in international oil prices and the decline in the value of the U.S. dollar vis-a-vis other major currencies. Since oil is the major source of export earnings for Indonesia and since it is priced in dollars, Indonesia has found it increasingly difficult to repay loans, especially loans denominated in ever-stronger yen.

In order to facilitate debt repayment, Japan's Export-Import Bank made its first dollar-denominated loan to Indonesia in mid-1988. Jakarta had been actively campaigning for the $200 million loan to be in dollars. Approximately 40 percent of Indonesia's external debt is comprised of yen-denominated loans. The fall in world oil prices and the appreciation of the yen have added some $1.5 billion to Indonesia's debt-service payments in the past two years.[1]

Another area in which Indonesia is looking to Japan for advice and technical cooperation is infrastructure. Indonesia is hoping to find a way to connect its two main islands, Java and Sumatra, thereby facilitating passenger traffic and freight flows within the country. Among the proposals are a tunnel similar to the one that connects Japan's Honshu and Hokkaido islands or a bridge like the one that joins Honshu with long-isolated Shikoku island. Japan's Seikan Tunnel, which is the world's longest at 33.5 miles, took 25 years to complete. Following a similar time schedule, Indonesia expects to connect Java and Sumatra, separated by nearly 25 miles of water, by the year 2030.

Philippines - President Corazon Aquino expressed her concerns in November 1988 about the survival of Asean. The greatly disparate economic development of the member countries could lead to a breakdown of economic and possibly political cooperation among the six nations, she worries. In addition, uneven development would put weaker economies, such as the Philippines, at a disadvantage in any future Asean trading block.

The Philippines, looking for ways to beef up its economy, has sought foreign direct investment. Japanese investments in the Philippines rose greatly during the first three quarters of 1988, more than tripling in terms of the

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[1] Nigel Holloway, "Japan's Dollar Donor," Far Eastern Economic Review, September 1, 1988, p. 47.

Philippine peso from the same period of 1987. The Japanese were the third-largest investors in the Philippines in that span, investing $75.6 million, compared with $109 million for the Taiwanese and $88.9 million for the Americans.

Philippines Trade and Industry Secretary Tomas Alcantara stated in November that Manila is seeking Japanese investment to facilitate trade between the two countries. One type of venture may be a transfer from Japan to the Philippines of shipbuilding, one of the country's sunset industries. Small- and medium-sized shipbuilding operations in Japan that are no longer internationally competitive might prove cost-effective in the Philippines where labor is far less expensive. This also would benefit the Philippines by providing new ships for the domestic market to replace the outdated vessels currently being used.

In order to facilitate more investment in the Philippines, Japanese businesses have requested a change in Philippine investment laws to allow foreigners to own a larger share of the joint ventures that are mandatory for offshore investors. The Philippine Board of Investment is considering the request, which was made in December. Currently Filipinos must own 60 percent of a business. Under the system being requested, Filipino ownership would be 40 percent, with another 40 percent share owned by the foreign partner or partners and 20 percent by the Japan-Asean Investment Corp. Joint ventures in which JAIC would like to be involved include electronics and automotive projects and resort development.

Now is a key time for the Philippines to take advantage of Japanese capital and know-how to develop manufactures for export. The preferential tariff treatment the United States gives to selected exports from developing countries under the Generalized System of Preferences ended December 31 for Asia's four "tigers" -- Taiwan, Hong Kong, South Korea and Singapore. Their economies are seen as strong enough to function well without such help. Many trade experts see this as a great opportunity for countries like the Philippines to take full advantage of GSP treatment.

In 1987 the Philippines ranked last among Asian Pacific developing countries in terms of GSP benefits, with only $329 million worth of goods entering the United States. By contrast, Taiwan had $4.2 billion worth of exports, while South Korea had $2.5 billion, Hong Kong $1.7 billion and Singapore $1.3 billion.[2] Clearly the Philippines has much room to expand. Some companies may be considering a shift from the newly industrialized economies, such as Singapore, to the Philippines to take advantage of GSP.

As the Philippines seeks to strengthen its weak economy through foreign direct investment, economic assistance, and a drive to switch to manufactured exports rather than rely on shipments of primary products, Filipino legislators are taking action to limit repayment of the country's huge foreign debt. The Philippine Senate in late November passed a bill to limit foreign debt repayments to 20 percent of export earnings, although Pacific Rim watchers expect President Aquino to veto the measure. The Philippines has used approximately 29 percent of its export earnings and more than 25 percent of the state budget in recent years to repay its debts.[3] The government is trying to reach agreement with its foreign creditors to reschedule at least some of the $28 billion in loans made to the Philippines.

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[2] "Philippines Urged To Capitalize On U.S. Preference Program," Journal of Commerce, November 18, 1988.

In December Tokyo extended its 15th yen loan package to the Philippines. Valued at $709 million, it is the largest yen loan to date provided to Manila. The loan will reflect the new, lower interest rates now being charged by Japan -- in this case, a fixed rate of 2.7 percent a year. The repayment period ranges from 25 to 30 years, which includes a grace period of seven to 10 years, varying for different loans in the package.

The latest Japanese loan package will be used in part to strengthen Philippine infrastructure. For the first time there is a $120 million joint loan with the Asian Development Bank for the development of forests. The tropical forest in the Philippines is being threatened by "development" projects. The forest is often ravaged, despite some laws against it, by logging interests or by local farmers who, lacking an understanding of conservation, slash and burn small sections of the forest and plant subsistence crops for one or two seasons before moving to another plot and repeating the cycle.

Thailand - Thailand is considered to be poised to become one of the second generation of newly industrialized economies. The past three years have seen economic expansion at rates above 7 percent and soaring foreign direct investment in the country. Investments by Japanese companies catapulted from $50 million in 1986 and $150 million in 1987 and to an incredible $360 million in the first quarter of 1988 alone. Investors have been looking to Thailand in recent years in part because its exports to the United States still will receive GSP treatment. Also, Thailand's labor costs have been lower than those of the NIEs. Recently, however, Thai wage levels, especially those of engineers and skilled technicians, have been rising sharply, possibly leading overseas investors to look at the Philippines or Malaysia as alternatives.

Among the other problems that Thailand has been experiencing due to its rapid economic expansion has been land speculation by foreigners. It is illegal for foreigners to own land in Thailand except for foreign investment projects approved by the Board of Investment or projects that develop industries in specific sectors. Land prices have shot up in recent months as investors tried to grab prime real estate in rapidly developing sections of Thailand.

To continue fueling the economy, the Thai government has approved a growth-oriented budget for 1989 in sharp contrast to the austerity measures of recent years. Much of the extra money is earmarked for improving the economic infrastructure -- a longstanding complaint of potential Japanese investors in Thailand.

Malaysia - Malaysia has begun an aggressive campaign to secure foreign direct investment that has been going to Singapore and Thailand in recent years. The inducements include decreasing the corporate tax rate from 40 percent to 35 percent, accelerating depreciation for the petroleum industry, providing additional tax breaks for multinational corporations with regional headquarters offices in Malaysia, giving special "pioneer status" to small and

[3] "Debt Payment Curb in Manila," The New York Times, November 28, 1988.

medium-sized companies, and allowing tax deductions for capital expenditures for agricultural ventures.[4]

Malaysia succeeded in December 1988 in luring Seiko Epson Corp. to establish a subsidiary there. The Malaysian plant will produce watch parts, which will be sent to Singapore for plating and then to Japan or Hong Kong for final assembly. Seiko Epson originally planned to establish its plant in Thailand, but Malaysia has more lenient standards for waste water disposal, which made the project seem more economically feasible.

Singapore - Singapore, along with Brunei, is one of the two Asean countries with high per-capita income and strong economic prospects. It experienced growth estimated at 11.1 percent in 1988, which outpaced the projected NIE average of 9.2 percent and the forecast Asian Pacific regional average of 8 percent, the United Nations Economic and Social Commission for Asia and the Pacific reported in late December. Although Singapore will lose its status under the U.S. GSP, its economy is expected to remain strong this year.

Prospective Asean Members

Looking for ways to attract capital and increase export earnings in their economically weak states, several Southeast Asian countries with state-run economies are hoping to join the free trade-oriented Asean. Furthermore, Asean is seen as playing a positive role in promoting regional stability.

Vietnam - Though not currently a member of Asean, Vietnam has expressed its desire to join. In a meeting with Philippine officials in late November, Hanoi expressed its willingness to peacefully settle disputes in the region, including its military occupation of Kampuchea. The two countries agreed to try to resolve legal and territorial disputes. Vietnam and the Philippines, along with China, Taiwan and Malaysia, claim sovereignty over the Spratly Islands.

Malaysia's prime minister stated December 15 that Vietnam might become a member of Asean in the future, despite its communist government, if Vietnam agrees to follow the principles of Asean. This marks a shift in the Asean policy of the past 10 years of trying to isolate Vietnam and to press for a withdrawal of Vietnamese troops from Kampuchea. With representatives from the Asean countries having recently visited or planning to visit Hanoi, members seem to be trying to create an atmosphere of cooperation through trade with Vietnam even before the resolution of the Kampuchean problem.

Japan has begun trying to encourage regional stability, hoping to speed negotiations among the factions seeking control in Kampuchea. Tokyo has intimated that aid may be held out as a "carrot" to encourage cooperation and quick resolution of conflicts in the Indochina region. Vietnam Vice Foreign Minister Tran Quang Co told the Kyodo News Service in mid-November that he hoped Japan would take on a broader and more constructive diplomatic role to help solve problems in Indochina. Mr. Co believes that Japan, as a world leader, can talk to all parties embroiled in the conflict, including China and the Soviet Union.

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[4] Nick Seaward, "Going For Growth," Far Eastern Economic Review, November 3, 1988, p. 90.

Japan was criticized, however, by the vice foreign minister for having been "slow in responding to the Kampuchean issue." Vietnam is hoping for a "more accurate and realistic Japanese approach to the problem."

Burma - Like Vietnam, Burma is not a member of Asean, but it has been trying recently to overcome its diplomatic isolation and to end its self-imposed economic isolation. After several decades of austerity programs and import-substitution policies, Burma had become one of the world's poorest countries. Since the antigovernment riots in the summer of 1988 and the subsequent halt in aid to Burma from major donors such as Japan, the United States and West Germany, Rangoon's new government has been starved for capital. In an attempt to lure foreign capital to the country, a new foreign investment law was introduced November 30. Wholly owned foreign companies will be permitted as well as joint ventures with a minimum 35 percent foreign equity stake. Rangoon is especially looking for export-oriented investments.

The withholding of aid by Japan has significant implications for several reasons. In 1986 Japan gave Burma $244 million in grants and loans, which was almost 80 percent of total Burmese economic assistance.[5] The amount of loans was cut back sharply, however, after Burma was unable to repay its debts. In 1988 Burma received only grant aid from Japan totaling $27.5 million. In what is viewed by many aid specialists as a change in attitude in Japanese policy, Tokyo is intimating a need for governmental stability within Burma before it will continue its assistance program. Japan, unlike the United States, usually has not hinged its aid on political conditions or economic reforms.

Intra-Asean Trade

For Asean to be strengthened, many economists believe that there must be more trade and joint ventures among its member countries. Asean faces some difficulties in accomplishing this since the members have no concrete mechanism to help achieve their goal of economic cooperation. Varying levels of development, differing tariffs, and an unwillingness to surrender some degree of sovereignty to the group are all factors working to frustrate economic cohesion.

The desire for regional cooperation remains strong, but intra-Asean trade between 1981 and 1985 remained relatively flat, around 18 percent of international trade. At the December 1987 Asean summit some progress on tariff reduction was accomplished to promote trade. The goal is that "50 percent of the value or 90 percent of all items [will] be covered under the Preferential Trading Arrangement after five years."[6] Asean members expanded to 50 percent from 25 percent the degree of tariff preferences they will receive.

For a number of years Asean has considered the joint production of cars. The project has bogged down as individual countries sought to go it alone in an

[5] David Sanger, "Japan, Growing Bolder, Tries To Nudge Burma," The New York Times, August 19, 1988, p. A6.

[6] Seiji Naya and Pearl Imada, "Prospects Becoming Slightly Brighter For Expansion Of Intra-Asean Trade," The Asian Wall Street Journal Weekly, September 12, 1988, p. 6B.

attempt to emulate Japan's economic success and as Japanese motor vehicle manufacturers have moved offshore. Now, automotive parts manufacturing plants are scattered throughout Asean, and the Japanese-led joint ventures are trying to gain a competitive edge through reductions in tariffs for intra-Asean trade.

Even when Asean members do cooperate, other factors, such as the terms of finance, can doom projects. A fertilizer manufacturing plant that is a joint venture of Asean members -- except for Brunei -- has been successful by most standards. Unfortunately, the yen-denominated loans from Japan's OECF and Export-Import Bank that financed the facility have more than doubled in repayment value vis-a-vis the ringgit of Malaysia, where the plant is located; thus the operation has become a money-loser. Since it is a government-backed project, there is no current plan to shut down the plant. A reduction in the interest rate on the loans is being considered, however.

Conclusion

Japan's ties with Asean have continued to strengthen in the past two years. Its commitment to the region is seen through its expanding foreign aid efforts there. Moreover, an increased volume of both private and government investment is flowing into the region, with Asean members seeking even more Japanese capital. Not only geopolitical linkages but the necessity of securing natural resources for Japan and capital and technology inflows for Asean will keep these countries close.

The key to Asean economic success, however, may lie in increased intra-Asean trade rather than expanded trade with Japan. Predicated on a desire to cooperate, the December 1987 agreement to raise tariff preferences for Asean members may provide the needed incentives to stimulate trade. Asean is viable and has a great opportunity for growth, both in terms of the regional economy and through additional members.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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Tax Reform Gets Final Diet Approval

Despite last-minute delaying tactics by opposition parties, the Liberal Democratic Party pushed a controversial tax reform package through the upper house of the Diet December 24, clearing the way for the first significant changes in Japan's tax system in 40 years. Reaction to the changes ranges from positive among business leaders to negative among the general public. Although passage of the tax bills increases the probability of a second term for Prime Minister Noboru Takeshita, he faces a tough task in allaying the concerns of the average taxpayer. Passage of the reforms also clears the way for the government to proceed with budget plans for the coming fiscal year.

The Japan Socialist Party and the Japan Communist Party tried every parliamentary maneuver they could think of to prevent the bills from passing. In addition to proposing a general no-confidence motion against the entire Takeshita cabinet, the JSP and the JCP sought to censure Mr. Takeshita as well as then Home Affairs Minister Seiroku Kajiyama, former Justice Minister Yukio Hayashida and the chairman of the upper house Tax System Committee, Matazo Kajiki. While the outcome of each vote was never in doubt (the LDP controls 60

Yen Reaches Plateau In 1988

A few years ago, some alarm bells would have gone off in Japan if the yen had jumped 12.8 percent on average against the dollar. Yet just that happened in 1988, and few in Japan seemed the slightest bit worried. In fact, corporate profits increased compared to 1987 results, and economic growth accelerated, exactly the opposite of what might have been expected. At the same time, the dollar-denominated current account surplus, which had dropped slowly but unambiguously in response to the previous bouts of yen appreciation, showed signs of stabilizing at a historically high level.

What happened? By 1988 the appreciation of the yen was old hat; compared to the 41.5 percent jump in 1986 and the 16.5 percent rise in 1987, the 1988 increase seemed modest. In 1988, as in previous years, the day of reckoning for Japanese exporters was avoided by a combination of strong economic growth at home, which enabled firms to shift sales from abroad to the domestic market, and stronger than expected growth abroad, which limited the loss of overseas markets. The ability of Japanese firms to cut costs at home and their willingness to accept limited dollar export price increases also were factors. With domestic growth expected to be strong for the immediate future, Japanese firms remain confident, even if the yen rises further.

The yen's appreciation in 1988 continued to show a pattern of stable periods interspersed with periods of sharp movement (see Table). Recovering from a high of Y120.45=$1.00 on the Tokyo market in early January, the yen ended January at Y127.18=$1.00. Little movement occurred until the summer when the dollar staged a modest rally that lasted several months. Some analysts who a few months earlier had foreseen nothing but gloom for the American currency became unbridled optimists. But before long they were proven wrong for the second time when the dollar resumed its downward path, picking up speed after the U.S. elections in November. The dollar closed the year at Y125.9 after having resisted the Y120 barrier in late November for the second time in 1988. For all the yen's ups and downs, it was stronger every month last year than in the same month of 1987.

Table 1: Yen-Dollar Exchange Rate, 1983-88

(monthly average, Tokyo's interbank market)

	1983	1984	1985	1986	1987	1988
January	Y232.9	Y234.0	Y254.1	Y200.0	Y154.5	Y127.6
February	236.3	233.7	260.3	184.6	153.5	129.2
March	237.9	225.5	258.4	178.8	151.5	127.3
April	237.7	225.0	251.7	175.6	143.0	125.0
May	234.8	230.7	251.6	166.9	140.5	124.8
June	240.1	233.3	249.0	167.8	144.5	127.1
July	240.5	242.7	241.7	158.7	150.2	133.1
August	244.4	242.2	237.2	154.1	147.6	133.6
September	242.7	245.2	236.9	154.8	143.0	134.4
October	233.0	246.9	214.8	156.0	143.5	129.0
November	235.3	243.3	203.9	162.7	135.3	123.2
December	234.3	248.0	202.8	162.1	128.4	123.6
Annual Average	237.5	237.5	238.5	168.5	144.6	128.2

Will this pattern repeat itself in 1989? Higher interest and inflation rates in the United States than in Japan, as well as the staggering current account imbalances in both countries, point to further yen appreciation this year, although, as in the past, market psychology will play a critical role. While the year is unlikely to see the arrival of the long-awaited 100-yen dollar, a new postwar high for the yen in the Y110 to Y120 range can be expected.

The currency markets always keep at least one eye on Washington, but this year American policymakers will get even more attention than usual. Despite the assurances of incoming Bush administration officials, market participants may be less than completely convinced of Washington's commitment to international policy coordination and exchange rate stabilization efforts. Even if those commitments are genuine, they may mean little if the Bush administration and the Congress prove unable to rein in the U.S. federal budget deficit, which creates large and potentially destabilizing capital inflows into the United States.

Regardless of how events in Washington work themselves out, the currency market in late 1988 contained a positive omen concerning future capital inflows. Since at least 1985, when the yen began its sustained rise, using yen to invest in dollar-denominated securities has proven almost a guaranteed way to lose money. The loss in yen terms has more than offset the interest rate advantage of dollar-denominated instruments. It comes as no surprise that private foreign investors have shown increasing reluctance to bet on dollar securities. But the time may have come to rethink this position. By December 1988 the exchange rate change had slowed to the point where the overall year-to-year return on many comparable yen and dollar investments were virtually equal. If the dollar's relative stability holds, U.S. instruments could become increasingly attractive. In this virtuous cycle, the dollar would in turn gain greater strength. Dollar investments would be profitable and the corresponding capital inflow sustainable in the face of a modest, ongoing appreciation of the yen. Slow appreciation is exactly what most analysts expect of the yen over the next year.

Douglas Ostrom

Probe Of Japan's Construction Bidding Reveals Rifts

An investigation by the Office of the U.S. Trade Representative into Japan's construction bidding procedures is revealing some interesting testimony. The investigation, under Section 302 of the 1974 Trade Act, was mandated as part of the 1988 Omnibus Trade and Competitiveness Act (see JEI Report No. 45B, December 2, 1988). Foreign access to Japan's construction market has become a highly visible issue as the value of the Japanese market has climbed to an estimated $300 billion, second only to the $400 billion U.S. market.

Since the United States and Japan had signed a March 1988 agreement covering bidding procedures for 14 public works projects (see JEI Report No. 13B, April 1, 1988), the Japan Federation of Construction Contractors and Ministry of Construction officials expected USTR's investigation to be pro forma. In a letter to USTR, JFCC contended that Japan's system of designated bidders is "nondiscriminatory and open to foreign companies." Furthermore, JFCC feels that the U.S.-Japan construction pact is "fair and reasonable."

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DEFENSE SPENDING AND HIGH TECHNOLOGY DEVELOPMENT: NATIONAL AND STATE ISSUES

A STUDY BY LYNN E. BROWNE OF THE FEDERAL RESERVE BANK OF BOSTON*

Summary

One argument used by critics of the significant increases in U.S. defense spending in the 1980s is that this growth has undermined the international economic position of the United States by diverting resources from the development of commercial product and process technologies to military applications. Lynn Browne, a vice president in the research department of the Federal Reserve Bank of Boston, examines this proposition in the following study. The author finds scant cause and effect between the rise in defense expenditures and the declining international competitiveness of U.S. industry.

Introduction

The impact of defense spending on the economy has long been a subject of debate; however, the debate intensified in the early 1980s in response to President Reagan's proposed defense buildup. The adverse economic consequences that have been attributed to defense spending are many and diverse, encompassing fears that rising defense expenditures lead to inflationary pressures as well as concerns about the distributional consequences of defense spending for some occupational and socioeconomic groups. One criticism heard with greater frequency in the 1980s is that defense spending undermines the competitiveness of U.S. industry.

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Expenditures for defense account for a much larger fraction of GNP in the United States than in most of its trading partners. These expenditures, it is argued, have diverted resources from activities that would have better served the cause of U.S. competitiveness. In particular, they have undermined U.S. technological leadership, in that research and investment dollars and professional and technical personnel have been devoted to defense purposes rather than to developing new and superior products and to improving manufacturing processes. Our trading partners, without the same defense burden, have been able to concentrate their resources on commercial applications with the result that in an increasing array of industries they challenge the United States in productivity and quality of goods produced.

Contrasting with this view of defense spending as an impediment to U.S. competitiveness is the experience of Massachusetts and California. These states are commonly acknowledged as leading centers of innovation within the United States despite being heavily "burdened" with defense expenditures. Indeed, defense spending has frequently been seen as a vital contributor to these states' high technology leadership.

This article discusses the relationship between defense spending and the development of high technology industries, at both the national and the state levels. A particular focus of the article is whether the effects of defense spending on commercial innovation are different for a state than a nation.

Part I briefly reviews the arguments that defense spending impairs U.S. high tech competitiveness and finds little supporting evidence.[1] Part II looks at the relationship between the distribution of defense activity among states and the location of high technology industries. It finds that Massachusetts and California are unusual in the extent of their defense activity and their involvement in high technology industries with a predominantly commercial focus. High levels of defense spending in a state are not generally associated with unusually high levels of commercial high tech. Thus, the effect of defense spending on commercial innovation and high technology development appears neither as pernicious at the national level nor as advantageous at the state level as is sometimes portrayed.

I. Defense as a Hindrance to U.S. Competitiveness

The argument that defense spending impairs competitiveness seems to have been inspired by comparisons of defense spending and productivity growth in the industrialized countries. At least among the major non-communist industrial countries, higher ratios of defense spending to GNP have been associated with lower rates of productivity growth (Table 1). To infer from such a simple relationship among such a small number of very different countries that high defense spending actually causes low productivity growth is a considerable leap. However, in the context of the early 1980s, with defense spending increasing rapidly even as U.S. manufacturers were losing market share to foreign producers, especially the Japanese, the contrast between Japan's first place ranking in productivity growth and last place ranking in defense spending and the United States' first place ranking in defense spending and last place ranking in productivity growth took on added meaning.[2]

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One way in which defense spending is said to have weakened the U.S. competitive position is by discouraging commercial innovation and the development of new industry.[3] At first blush such a charge seems puzzling given the vast sums that the Department of Defense devotes to research and development and given the importance of defense spending to such high technology industries as aircraft, computers, and communications. The origins of the modern computer were the military's requirements in World War II; the military's communications needs in the 1950s and 1960s led to computer time-sharing, networks and computer graphics (DeGrasse 1984).

It is argued, however, that defense spending diverts research dollars away from activities that would have greater commercial payoffs than any spin-offs from defense. Professional and technical manpower is also diverted from commercial activities to defense. Other countries, without the same burden of defense spending, have been able to focus their research efforts and their professional manpower on developing new and superior products and manufacturing processes. The nature of defense procurement is also said to foster business practices inimical to innovation and successful competition in the commercial marketplace.

Drain on Technical Resources

The essence of the argument that defense spending diverts research dollars and professional and technical resources from private endeavors is that the supply of research monies and of personnel capable of conducting research is inelastic. Accordingly, research dollars spent on defense come out of nondefense research. Engineers and scientists working on defense projects would otherwise be applying these same skills to the problems of industry. They would not, in other words, be bankers or architects or salesmen. And even if defense demand attracts workers into these occupations, wages are bid up, curtailing private employment.

In considering the potential of defense spending to divert resources from commercial research and development, it should be recognized that more than 60 percent of defense outlays in 1985 were devoted to military personnel, operations and maintenance, military construction and family housing -- programs that do not absorb substantial scientific and engineering resources. Research and testing were responsible for about 12 percent of defense outlays in 1985; procurement, which also places a demand on such resources, accounted for 27 percent. Outlays for procurement and research and testing are more volatile than overall defense spending, however; these two programs accounted for over 50 percent of the increase in defense outlays from 1977 to 1985 (Henry and Oliver 1987, Table 2).

Demand for Engineers and Scientists - The National Research Council recently considered the relationship between defense spending and the nondefense engineering market and concluded that "defense outlays have not seriously affected the numbers of engineers available for nondefense work" (1986, p. iii). An Office of Technology Assessment memorandum (1985) on the scientific and engineering work force came to a similar conclusion. The reasoning behind these conclusions has three elements.

First and foremost, nondefense demand for engineers and scientists is considerably greater than defense. Only 20 percent of engineers with bachelor's degrees were working on defense-sponsored projects in 1984. For individual engineering disciplines the defense share was higher, but for most categories of scientist and for computer specialists it was considerably lower.

Because nondefense demand is so much greater than defense, large changes in defense employment would have only moderate consequences for the supply of nondefense workers, even if defense and nondefense workers were perfect substitutes and the overall supply of engineers and scientists were fixed.

Secondly, nondefense and defense engineers and scientists are not perfect substitutes. Specialization is great and interdisciplinary mobility is low. Consequently, at least in the short term, fluctuations in defense demand will leave large segments of the science and engineering professions unaffected. The corollary to this argument is that competition between defense and commercial employers will be keen in those disciplines, such as electrical engineering, in which both sectors have substantial employment. However, the rewards of defense and commercial work are seen to be different and "the civilian sector is not a pushover in the contest for good engineers." (National Research Council 1986, p. 91)

Thirdly, despite low interdisciplinary mobility, the supply of engineers and scientists is not fixed. It responds to demographic factors, changing occupational preferences and changing employment opportunities. Improved job opportunities encourage college enrollments and, with a lag, lead to an increased number of professionals in the fields in question.[4] To a limited extent, supply can also be augmented in the shorter run by in-migration from other countries, recruitment from related fields such as physics and mathematics, upgrading of technicians and the retention in R&D capacities of individuals who would otherwise have moved into management.

Some have suggested that the problem is the quality of the engineers available for commercial work as much as it is the quantity, fearing that the inherent excitement of defense work siphons off the best minds: "Would the typical engineer rather work on designing a new missile with a laser guidance system or on designing a new toaster? To ask the question is to answer it." (Thurow 1981, p. 6) However, a National Research Council survey of university placement officers found that commercial opportunities are prized because they offer greater potential for advancement and more varied challenges. In a similar vein, the Office of Technology Assessment surveyed the market for electrical engineers in the Boston area, where both commercial and defense activities are well represented, and concluded that "The military engineer is viewed as more risk averse, less creative and less likely to be interested in advancement. In contrast the civilian engineer is viewed as more people oriented, more talented, better able to bring out products and more selective." (1985, p. 105)

The key point, however, is that the engineering and science labor market in the United States is predominantly a commercial market. If the number of engineers and scientists available for commercial work is too small or lacking in quality, competition from defense demand is not the primary reason.

Defense and R&D Spending - While research is a relatively small fraction of total defense outlays, defense research is a relatively large fraction of total U.S. research and development expenditures (Chart 1). Federal defense-related outlays accounted for 30 percent of total U.S. R&D expenditures in 1985, federal space research another 6 percent. Although the defense share in

Table 1

Defense Spending Relative to GNP and Annual Rates of Productivity Growth, Twelve Countries, 1960–86

Percent

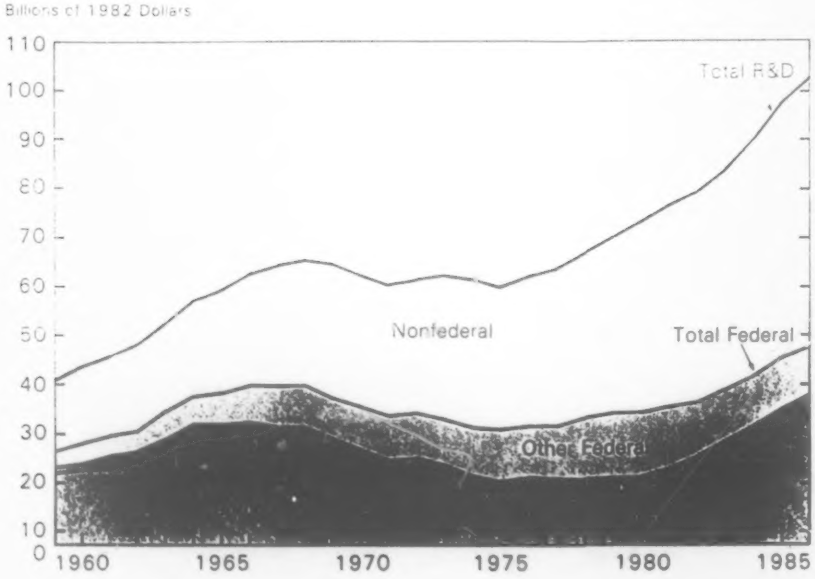
	Defense Spending as a Share of GNP[a]	GDP per Employed Person	Manufacturing Output per Hour
United States	6.4	1.2	2.8
United Kingdom	5.2	2.2	3.6
France	4.3	3.6	5.2
West Germany	3.6	3.1	4.6
Netherlands	3.4	2.3	5.9
Sweden	3.4	2.3	4.6
Norway	3.3	2.9	3.2
Belgium	3.1	3.1	6.3
Italy	2.7	3.7	5.7
Denmark	2.3	2.2	4.6
Canada	2.3	1.9	3.3
Japan	.9	5.5	7.9
Correlation between Defense/GNP and Productivity Growth			
Correlation Coefficient		−.63	−.63
t-statistic		(−2.6)	(−2.5)

[a] Average of defense shares in 1965, 1970, 1975, 1980, and 1984.

Source: Defense as a share of GNP—Central Intelligence Agency, *Handbook of Economic Statistics 1987*; productivity figures—U.S. Bureau of Labor Statistics, Office of Productivity and Technology, "Comparative Real Domestic Product, Real GDP Per Capita, and Real GDP per Employed Person, Thirteen Countries, 1950–1986," August 1987 and "Output per Hour, Hourly Compensation and Unit Labor Costs in Manufacturing, Twelve Countries 1950–86," December 1987.

Chart 1

U.S. Research and Development Outlays



Source: [illegible]

1985 was substantially above that in the second half of the 1970s, it was still below that in the 1960s. Defense and space research was responsible for more than half of all R&D expenditures in the early 1960s, compared to somewhat over one-third today.

The expansion in defense R&D in the 1980s was accompanied by a cutback in federal R&D outlays for nondefense purposes. Thus, one might be tempted to argue that the increase in defense occurred at the expense of federal nondefense activity. The assumption that research dollars cut from defense will be available to fund other federal research projects underlies many criticisms of defense spending. While a budgetary trade-off between defense and nondefense R&D seems to exist, the pool of federal research monies is not fixed. A dollar of spending for defense does not reduce nondefense research by a dollar, and a dollar less for defense rarely means a dollar more for nondefense. The increase in defense R&D in the 1980s was far greater than the cutbacks in other federal research; and when defense R&D was reduced in the early 1970s, federal nondefense R&D did not grow by the amount of the defense cuts. Moreover, in the late 1950s and early 1960s the expansion in defense and space research was accompanied by rapid growth in federal nondefense R&D, indicating that increased outlays for defense R&D need not preclude increases in nondefense activity.

Most federally funded R&D is actually performed by business firms, universities and other nonprofit institutions rather than by the federal government itself. Most nonfederal R&D is both funded and performed by industry. Nonfederal R&D expenditures have risen fairly steadily in real terms since the mid-1950s and now represent more than half of all R&D spending. This steady rise in industry-supported R&D seems inconsistent with the view that federal defense research has an adverse effect on private activity. Indeed, if there is a pattern, it shows that nonfederal research expenditures have grown most rapidly when defense and space research was expanding. Thus, both the surge in defense and space research in the 1950s and early 1960s and the expansion in defense in the 1980s were accompanied by strong growth in nonfederal R&D. During the 1970s, when defense and space research was cut back, nonfederal R&D grew more slowly. (Some industry-financed R&D could be for defense purposes. Data are not available that would permit one to rule out such a possibility. However, generally when a business firm engages in defense research, the federal government pays.)

Thus, an examination of R&D expenditures in the United States over time shows no evidence that defense work discourages industry R&D, and while there may be a trade-off between expenditures and federal nondefense R&D, it is certainly not dollar-for-dollar. The trade-off between defense and nondefense research would be even less than Chart 1 suggests to the extent that defense research and associated procurement serve nondefense purposes.

Defense Spending for Commercial Purposes

Most critics of defense spending acknowledge that it has produced significant commercial spin-offs. Some of these spin-offs were largely fortuitous, in the sense that no one foresaw such an outcome. To some extent at least, the computer would seem to fall into this category. It was originally developed to speed up ballistics calculations, and while the commercial possibilities were recognized fairly quickly, in the very early days customers were expected to be limited to the military, defense contractors and a few other large government organizations.

Sometimes, however, the potential for commercial benefits is recognized from the start and is an important motivation for the defense expenditures. Recent proposals to strengthen U.S. chip-making capabilities seem to be a case in point. Much of the impetus for research in this area comes from largely commercial firms facing competition from overseas rivals. They seek support from the Department of Defense because it is an important customer and also because they see it as having the dollars to fund a major research effort. The Department of Defense is supportive because it wants to ensure a reliable supply of specialized chips for military purposes and fears dependence on foreign chip producers. Thus, these proposals have both a commercial motivation and a national security motivation.[5]

Will both commercial and military goals be well served by such arrangements? If the Department of Defense is a major supplier of research funds, it will have a powerful influence on the research program and the nature of the products and processes developed. Critics of defense spending contend that military needs are not very similar to commercial requirements. The military is said to be less concerned about cost than are commercial customers.

Performance is foremost, but the performance is so specialized and extreme that critics see little potential for commercial applications. In awarding contracts, the military is also said to rely on established firms with which it has dealt in the past, and to ignore smaller, potentially more innovative upstarts. The military is secretive, and for national security reasons may be reluctant to see research findings disseminated widely, thereby reducing the prospects for spin-offs. Of course, commercial firms can also be very secretive about their activities for competitive reasons.

The possibility of distortions arising from defense involvement is all the more disturbing if U.S. defense expenditures inspire or compel other countries to undertake similar efforts with a more commercial focus. It has been suggested that governments in other countries see U.S. defense research and procurement as a form of industrial policy generating commercial spin-offs. They fear being left at a technological disadvantage and, to protect themselves, they have responded with their own research programs. These are more commercially focused than the U.S. effort and, from a commercial standpoint, more effective.

It stands to reason that research dollars spent to serve both commercial and military purposes will not have the same commercial impact as dollars spent in the same area solely for commercial purposes. An intriguing question, however, is whether the dollars would be spent at all without the link to defense.

While some commercial producers may look to the defense sector to bankroll research they would otherwise undertake on their own, one implication of the various criticisms of defense involvement is that most commercial firms would normally prefer to avoid relying on the Department of Defense. They turn to it only when the commercial payoffs are uncertain and the risks are high. Past R&D patterns provide little indication that defense research substitutes for industry effort.

As for federal R&D expenditures, national security seems the most powerful motivator. The surge in federal R&D in the late 1950s and early 1960s was a response to the challenge implied by the launching of Sputnik as well as to the needs of the Vietnam War. The increase in R&D under the Reagan administration, which restored expenditures to the fraction of GNP they were in the 1960s, was entirely defense-driven. Without a perceived threat to national security, a strong consensus for major research expenditures does not seem to develop in the United States. Indeed, even those who criticize defense spending on competitiveness grounds frequently appeal to the public's concern for national security, arguing that the negative economic effects they attribute to defense spending actually jeopardize security.

II. Defense and High Tech Development at the State Level

While defense spending has been accused of undermining U.S. competitiveness, it has also been seen as an important impetus to growth for various states and regions within the United States. Most commonly, defense spending's influence on states is seen in terms of the dollars flowing into the states in the form of procurement or payroll and the resulting multiplier effects on more locally oriented activities. However, in some states -- Massachusetts and California in particular -- defense procurement and research activities are credited with laying the foundation for high technology industries with a strong commercial, as well as military, orientation.

The effect of defense spending on innovation and the development of new industries might be more favorable for a state than for the country as a whole for several reasons. The argument that defense research comes at the expense of nondefense R&D, whatever its merits for the nation, seems much more tenuous at the state level. Publicly funded research is overwhelmingly federally funded research. Consequently, the public monies available for research in a given state are not limited by the financial resources or willingness to pay of the state but of the nation.[6]

Of course, the capacity to carry out research and innovate involves more than federal dollars. Research absorbs real resources, in particular professional and technical manpower. Again, however, the argument that defense activity diverts scarce professional manpower away from nondefense R&D seems much weaker applied to a state than to the nation. The supply of professional and technical manpower is undoubtedly more elastic at the state level, simply because workers can be recruited from other states. Even for the nation, immigration is a nontrivial source of professional and technical workers, and professional mobility is greater within the United States than from other countries to the United States. Indeed, to the extent that professional and technical workers are attracted to areas offering many employment opportunities, the presence of defense contractors may enhance the recruiting abilities of nondefense employers.

All of this is simply to say that trade-offs between defense and nondefense research and innovation at the national level need not imply trade-offs for individual states. Moreover, since all but the most vociferous critics of defense spending acknowledge the potential for commercial spin-offs, states in which defense research and procurement activity takes place may have an advantage in securing the benefits of these commercial spin-offs and, thus, a headstart in nondefense innovation. Several authors have explained the development of high technology industries in Massachusetts in these terms.[7]

Massachusetts is a leading center for defense research and procurement activity. For many years, its share of prime defense contract awards has been double its share of U.S. employment. Massachusetts is also widely recognized as a center for high technology industries, especially computers. Not only does the development of the computer owe much to the military's requirements in World War II, but the emergence of computers as a major Massachusetts industry can be traced, in large part, to defense research at the Massachusetts Institute of Technology in the late 1940s and early 1950s (Warsh 1986).

Despite its military origins, the computer industry today is primarily commercial in focus. Defense spending accounts for only about 5 percent of computer output, about the same as the defense share of output for refining or real estate (Henry and Oliver 1987). The situation is similar for the semiconductor industry, which is given much of the credit for the development of California's Silicon Valley. Once heavily dependent upon defense demand, it too has evolved into a predominantly civilian industry with only 5 percent of its output attributed to defense spending.

Are these exceptions or the rules? Is the Massachusetts and California experience unique or do defense research and procurement generally foster high technology development at the state level? The following sections examine the relationship between the geographic pattern of defense purchases and the location of high technology industries.

Defining High Technology and Defense-Related Industries

The term high technology is used to denote technologically sophisticated industries, usually manufacturing, that employ relatively large numbers of professional and technical workers and engage in significant research and development efforts for the purpose of developing new or substantially improved products and processes. Industries possess these characteristics to varying degrees. As a consequence, different definitions of high technology industries have been adopted by different researchers. The definition used in this article is one of three developed by the U.S. Bureau of Labor Statistics. It "includes manufacturing industries with a proportion of technology-oriented workers equal to or greater than the average for all manufacturing industries and a ratio of R&D expenditures to sales close to or above the average for all industries" (Riche, Hecker and Burgan 1983, Table 1). (Two nonmanufacturing industries are also considered high tech under this BLS definition, but they have been excluded from this article's list of high tech industries because of the customary identification of high tech with manufacturing.) These high tech manufacturing industries and their U.S. employment in 1985 are shown in Table 2.[8]

The most readily available measure of the geographic distribution of defense research and procurement activity is the value of prime defense contract awards received by businesses and other institutions in each state. However, prime contracts have a drawback as an indicator of defense orientation. Because subcontracting can be substantial, prime contracts may not show where the work is really performed. Studies of the effect of subcontracting on the distribution of defense purchases have come to different conclusions. Some have found that "Rather than decreasing the degree of spatial concentration, subcontracting by defense contractors maintains or increases it slightly" (Malecki 1984, p. 42). However, analyses by the Defense Economic Impact Modelling System, using input-output techniques, suggest that the indirect spending effects are more geographically diffuse than the distribution of prime contracts.[9]

Table 2

High Technology Industries and 1985 U.S. Employment

SIC	Industry	U.S. Employment 1985	Share of Total Private Employment (percent)
281	Industrial Inorganic Chemicals	142,425	.18
282	Plastics Materials & Synthetics	172,792	.21
283	Drugs	206,307	.26
284	Soap, Cleaners, & Toilet Goods	144,989	.18
285	Paints & Allied Products	63,803	.08
286	Industrial Organic Chemicals	159,564	.20
287	Agricultural Chemicals	59,119	.07
289	Misc. Chemical Products	95,191	.12
291	Petroleum Refining	140,985	.18
348	Ordnance & Accessories, n.e.c.	78,099	.10
351	Engines & Turbines	105,870	.13
355	Special Industry Machinery	170,482	21
357	Office & Computing Machines	516,749	.64
361	Electric Distributing Equipment	114,794	.14
362	Electrical Industrial Apparatus	195,826	24
365	Radio & TV Receiving Equip.	83,939	.10
366	Communication Equipment	652,773	81
367	Electronic Components & Access	664,768	83
369	Misc. Electrical Equip. & Supplies	155,328	19
372	Aircraft & Parts	636,518	79
376	Guided Missiles, Space Vehicles, Parts	173,810	22
381	Engineering & Scientific Instruments	80,305	10
382	Measuring & Controlling Devices	253,695	32
383	Optical Instruments & Lenses	34,229	04
384	Medical Instruments & Supplies	173,755	22
386	Photographic Equip. & Supplies	122,506	.15
	Total High Tech	5,398,621	6 71

Source *Employment and Wages, Annual Averages 1985.*

Largely because of the subcontract issue, some researchers have chosen to approximate states' defense orientation according to the fraction of employment in defense-related industries, that is, industries for which defense spending accounts for a large share of output (O hUallachain 1987). Table 3 shows the industries that analysts at the Department of Commerce and the Bureau of Labor Statistics have identified as most dependent upon defense spending, taking into account both direct and indirect purchases. Although these are the most defense-dependent industries, in only a few does defense account for the bulk of the industries' business. In some, the space program and military sales abroad, which are not counted as defense spending, represent significant fractions of demand. Nevertheless, most "defense-dependent" industries derive the greater portion of their business from civilian markets rather than defense.

Neither computers nor semiconductors is on the list of defense-dependent industries. Although both rank in the top 20 industries in terms of absolute value of defense sales, so large are their commercial markets that defense is responsible for only 5 percent of total output. In contrast, for a number of industries that are not usually considered tied to defense, a combination of rising defense demand and weak commercial sales caused the defense fraction to increase dramatically in the 1980s. Perhaps the most striking example is metal cutting machine tools. From 8 percent in 1980 the fraction of output attributable to defense rose to 34 percent in 1985. The reason for the increased defense share was a very large increase in defense output (65 percent) and very large decreases in nondefense (70 percent) and total output (60 percent). One implication of such fluctuations is that defense dependence for many industries is more a function of the economic and political environment of the time than the inherent characteristics of the industry.

Table 3

Defense-Dependent Industries

SIC	Industry	Defense Share of Output (percent) 1977	1980	1985	Number Employed 1985
103–105[a]	Nonferrous Metal Ores Mining, except Copper	8	11	26	13,487
1021	Copper Ores	5	6	11	12,644
2892	Explosives	36	41	65	17,674
3131	Boot and Shoe Cut Stock and Findings	11	14	12	7,133
3299	Nonmetallic Mineral Products, n.e.c.	7	9	17	7,148
3312	Blast Furnaces and Steel Mills	5	6	12	238,501
3313	Electrometallurgical Products	6	6	15	9,139
3331	Primary Copper	7	10	18	5,339
3332	Primary Lead	6	7	17	2,300
3333	Primary Zinc	9	11	22	1,870
3334	Primary Aluminum	7	9	22	24,650
3351	Copper Rolling and Drawing	5	7	17	23,927
3356	Nonferrous Rolling and Drawing, n.e.c.	8	13	18	16,249
3369	Nonferrous Castings, n.e.c.	9	10	17	18,866
3451	Screw Machine Products	6	7	13	46,0[illegible]
3462	Iron and Steel Forgings	8	10	19	35,182
3463	Nonferrous Forgings	21	12	25	6,635
3471	Plating and Polishing	11	11	13	74,533
3482	Small Arms Ammunition	37	30	39	12,058
3483	Ammunition, except Small Arms, n.e.c.	65	88	88	42,228
3484	Small Arms	20	26	48	14,520
3489	Ordnance and Accessories	61	79	86	9,293
3511	Turbines and Turbine Generator Sets	5	7	23	32,312
3535	Conveyors and Conveying Equipment	3	6	12	30,550
3536	Hoists, Cranes, and Monorails	3	4	13	13,367
3541	Machine Tools, Metal Cutting Types	3	8	34	54,474
3542	Machine Tools, Metal Forming Types	2	6	15	18,944
3562	Ball and Roller Bearings	7	7	15	46,664
3569	General Industrial Machinery, n.e.c.	3	8	15	53,497
3621	Motor and Generators	5	10	24	96,673
3622	Industrial Controls	5	6	11	62,224
3624	Carbon and Graphite Products	5	7	15	10,779
3662	Radio and TV Communication Equipment	35	42	50	509,966
3671–3673	Electron Tubes	12	14	26	41,727
3675–3679	Electronic Components except Tubes, Semiconductors	15	16	20	343,805
3713	Truck and Bus Bodies	2	8	22	36,711
3715	Truck Trailers	5	10	29	29,208
3721	Aircraft	43	37	66	327,165
3724 & 3764	Aircraft and Missile Engines and Parts	47	44	78	165,301
3728 & 3769	Aircraft and Missile Equipment, n.e.c.	38	31	41	183,074
3731	Ship Building and Repairing	45	61	93	140,025
3761	Guided Missiles and Space Vehicles	67	69	84	134,787
3795	Tanks and Tank Components	40	68	69	20,256
3811	Engineering and Scientific Instruments	19	23	28	80,305
3832	Optical Instruments and Lenses	14	13	24	34,229

Note: Industries listed are industries in which defense accounts for more than 10 percent of output. [a] The defense shares of output for industries 103–105 include parts of 108 and 109.

Source: Henry and Oliver 1985. *Employment from Employment Wages, Annual Averages, 1985.*

For the purpose of examining the association between state defense orientation and the location of high technology industries, which is presumed to be a long-term relationship, the industries classified as "defense-related" should be those for which defense spending accounts for a substantial fraction of output under normal circumstances. Accordingly, defense-related industries were defined as those for which defense accounted for more than 15 percent of output in 1977 and 1980, before the Reagan buildup. Optical instruments and electron tubes were also included because the defense share was close to the cutoff in both earlier years, as well as relatively high in 1985. These defense-related industries are highlighted in Table 3. (A case can be made for adding one additional industry to the list of defense-related industries. Industrial inorganic chemicals, not elsewhere classified (SIC 2819), includes establishments engaged in the manufacture of nuclear materials. However, the Department of Energy rather than the Department of Defense is responsible for the production of nuclear weapons. Consequently, industry 2819 does not appear to derive a large fraction of output from defense spending according to the criteria used to develop the list of industries in Table 3, and thus, it is not considered a defense-related industry in this article. The conclusions of the article are not sensitive to whether industry 2819 is considered defense-related. Less than 10 percent of U.S. employment in chemicals is in this component.)

Comparing the defense-related industries highlighted in Table 3 with the list of high tech industries in Table 2 reveals that most defense-related industries are also high tech industries.[10] Indeed, the exceptions, of which shipbuilding is the most important, accounted for only 10 percent of U.S. employment in defense-related industries. While almost all defense-related industries are high tech, the reverse is not true. Not all high tech industries are defense-related. Measuring and controlling instruments and medical instruments are not defense-related. Computers and semiconductors are not defense-related today, even if they were at one time. However, a sizable fraction of high tech employment, over 30 percent in 1985, is in industries also defined as defense-related. Aircraft and parts and radio and TV communication equipment are the most important of these defense-related high tech industries.

Defense-Oriented States

Table 4 lists the 10 most defense-oriented states as indicated by (1) employment in defense-related industries as a fraction of total private employment in 1985 and (2) share of prime defense contracts relative to share of U.S. employment for the years 1984-86.[11] Both measures show a strong defense orientation in Connecticut and Massachusetts; along the Pacific coast in California and Washington, although not Oregon; in Missouri and Kansas; in Maryland and Virginia; and, to a somewhat lesser extent, in Arizona and Utah. Defense orientation is lowest in some of the rural Mountain and Plains states, as well as in a few southern states. The most notable difference between the two measures is their characterization of New England. Based on the fraction of employment in defense-related industries the entire region is strongly defense-oriented, whereas contract awards show defense activity to be concentrated in Connecticut and Massachusetts.

Although overall defense spending rises and falls rather sharply over time, the relative defense orientation of individual states is fairly stable. Thus, eight of the 10 most defense-oriented states according to the fraction of employment in defense-related industries in 1985 were also in the top 10 in 1979.[12] Similarly, for contract awards, nine of the 10 most defense-oriented states according to 1984-86 contracts awards relative to employment ranked at the top in the 1978-80 period.[13]

Defense-oriented states tend to be high tech states. Of the 10 states with the highest shares of employment in defense-related industries all but Maine had larger fractions of employment in high technology industries than the country as a whole. The reason that defense-oriented states are also high tech states is the overlap between industries defined as defense-related and also as high technology industries. States such as Kansas and Washington, with very large aircraft industries, necessarily have substantial fractions of both defense-related and high tech employment. A strong defense orientation is not generally associated, however, with a large fraction of employment in high technology industries that are not defense-related.

These patterns are shown by the simple correlations in Table 5. These relate the fraction of employment in high tech industries in 1985 to state defense orientation in 1979 measured both as the fraction of private employment in defense-related industries and as prime contract awards relative to employment. High tech employment in 1985 is compared with defense orientation in 1979 on the grounds that the recent defense buildup could have caused states' defense activity to deviate from normal. Also, any causal link running from defense activity to high tech would operate with a lag. When defense orientation is compared with the fraction of employment in all high technology industries, the correlations are positive and statistically significant; but when defense orientation is compared with employment in high technology industries excluding those that are defense-related, the relationships are not statistically significant.[14]

Chart 2 plots the share of employment in high technology industries, excluding those considered defense-related, against the fraction of employment in defense-related industries. Some states, including Massachusetts and California, have relatively large fractions of employment in both defense-related industries and these more commercially oriented high technology industries. A number of small states with little manufacturing activity lack both. However, Delaware, with an unusually large fraction of employment in commercial high tech, has almost no defense activity while Kansas and Washington, with very large defense-related employment shares, have little commercial high tech.

Thus, the geographic pattern of defense activity and high technology employment provides little indication that defense activity has been a general stimulus to the growth of more commercially oriented high technology industries at the state level. This statement must be qualified by recognizing that even the more defense-dependent industries have substantial commercial business. Nevertheless, the Massachusetts and California experience does not seem to be representative of a general relationship between defense activity and high tech development. Reasons why this may be so are discussed below.

Composition of Defense-Related and High Tech Industries

Defense-oriented states that also have substantial commercial high tech employment have a more varied mix of defense-related industries than defense-oriented states with little commercial high tech. In most of the latter, the strong defense orientation is due to one very large industry and, in some cases, one very large employer. In Washington it is the aircraft industry, and Boeing Co. in particular, that is responsible for the state's large fraction of defense-related employment. In Maine, it is shipbuilding and the Bath Iron Works; in Kansas it is aircraft again (see Table 6).

Table 4

Ten Most Defense-Oriented States in 1985, according to:

Employment in Defense-Related Industries / Private Employment		Share of Prime Contracts[a] / Share of U.S. Employment	
Connecticut		Connecticut	
Washington		Missouri	(11)
New Hampshire	(18)	Massachusetts	
California		California	
Kansas		Maryland	(14)
Massachusetts		Alaska	(50)
Utah	(16)	Virginia	(13)
Vermont	(35)	Kansas	
Maine	(13)	Mississippi	(15)
Arizona	(11)	Washington	

[a] Average of 1984, 1985, and 1986.

Note: Figures in parentheses are rankings in the other listing.
Source: See appendix table 2.

Table 5

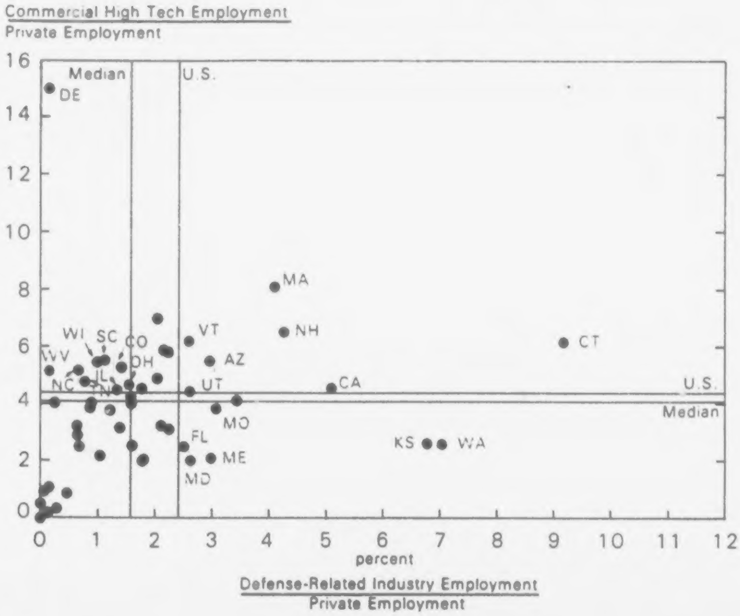
Correlations between Defense Orientation in 1979 and High Tech Employment in 1985

	Correlation Coefficients			
	Employment in Defense-Related Industries / Private Employment		Prime Contract Share / Employment Share	
	All	Large States	All	Large States
High Tech Employment / Private Employment	.60 (5.1)	.71 (5.6)	.45 (3.5)	.68 (5.2)
Non-Defense High Tech / Private Employment	.15 (1.0)	.08 (.5)	.16 (1.1)	.25 (1.4)

No. of observations = 50 for all states; 34 for large states (private employment exceeding 500,000 in 1985).
Figures in parentheses are t-statistics.

Chart 2

Relationship between Commercial High Tech Employment in 1985 and Employment in Defense-Related Industries in 1979



Source: U.S. Bureau of Labor Statistics, complete tape of ES-202 data

Table 6

Comparison of 1979 Defense-Related and 1985 Commercial High Tech Employment in Selected States

Percent

	Defense-Related Share of Private Employment	Industry Share of Total Defense-Related Employment 1979						
		Ordnance 348	Radio and TV Communications Equipment 3662	Electronic Components 367 except 3674	Aircraft 372	Shipbuilding 373	Missiles 376	Engineering and Optical Instruments 381 + 383
United States	2.4	3.5	20.4	18.3	34.7	9.9	5.4	6.0
High Defense-Related High Commercial High Tech[a]								
Connecticut	9.2	5.6	5.6	8.0	57.6	15.8	0	6.4
California	5.1	.4	28.3	15.7	35.6	3.8	10.4	4.4
New Hampshire	4.3	11.0	30.9	43.4	0	0	0	14.7
Massachusetts	4.1	5.6	23.1	25.9	11.5	7.1	13.6	10.8
Arizona	3.0	0	9.3	8.0	45.1	0	17.7	18.6
Utah	2.6	.9	4.7	32.1	57.5	0	1.9	1.9
Vermont	2.6	0	0	34.1	48.8	0	0	2.4
High Defense-Related Low Commercial High Tech[b]								
Washington	7.0	.1	3.5	.3	81.0	10.7	3.7	.4
Kansas	6.8	2.2	6.4	3.0	86.0	0	0	1.6
Missouri	3.1	4.4	3.2	21.8	64.2	3.2	1.2	1.2
Maine	3.0	7.1	7.1	20.2	2.0	57.6	0	4.0
Maryland	2.6	.3	56.8	3.6	14.2	18.1	2.1	4.5
Florida	2.5	1.0	34.4	11.4	24.5	12.0	14.5	1.6

[a] States with shares of defense-related and commercial high tech employment exceeding those in the United States and the median state.

[b] States with shares of defense-related employment greater than and shares of commercial high tech less than those in the United States and the median state.

[c] States with shares of defense-related employment less than and shares of commercial high tech greater than those in the United States and the median state.

Source: U.S. Bureau of Labor Statistics, computer tape of ES-202 data.

	Commercial High Tech Share of Private Employment	Industry Share of Total Commercial High Tech Employment 1985							
		Chemicals 28 except 2892	Refining 291	Computers 357	Various Machinery 351 + 355	Telephone Apparatus 3661	Semi-conductors 3674	Various Electrical 361 + 362 + 365 + 369	Various Instruments 382 + 384 + 386
United States	4.3	29.5	4.0	14.8	7.9	4.1	8.0	15.8	15.8
High Defense-Related High Commercial High Tech[a]									
Massachusetts	8.0	8.8	0	28.2	9.5	6.1	17.3	9.4	20.7
New Hampshire	6.5	3.9	0	49.0	13.1	0	5.4	8.5	20.1
Vermont	6.2	7.1	0	3.5	3.5	0	77.9	14.2	14.2
Connecticut	6.1	26.1	0	10.2	11.7	3.6	2.2	23.8	22.5
Arizona	5.5	6.2	.2	27.8	1.5	.9	51.6	3.6	8.6
California	4.5	14.5	6.2	25.4	4.4	2.2	15.4	11.3	20.7
Utah	4.4	12.3	3.9	43.1	2.9	1.5	14.7	3.9	17.2
Low Defense-Related High Commercial High Tech[c]									
Delaware	14.9	87.2	2.4	1.1	.5	0	0	6.0	2.7
South Carolina	5.5	57.4	0	3.2	17.0	0	1.1	11.8	9.0
Wisconsin	5.3	11.3	.2	3.3	36.6	.5	.2	39.9	7.9
Colorado	5.3	12.5	1.0	25.0	2.4	10.8	6.7	7.8	33.0
North Carolina	5.1	33.2	0	17.9	9.6	12.4	.4	18.4	7.9
West Virginia	5.1	86.4	1.8	0	1.3	0	.4	5.7	3.9
Tennessee	4.7	55.5	0	3.2	3.8	2.8	.1	24.4	10.1
Ohio	4.6	37.3	3.5	8.1	12.7	4.5	1.0	21.2	11.8
Illinois	4.4	33.5	3.8	3.0	10.8	10.2	.5	20.6	17.6

In contrast, Massachusetts and California are active in a number of defense-related industries: communications equipment, electronics and missiles all account for relatively large shares of employment; aircraft is also an important industry in California and a significant employer in Massachusetts. Most of the other defense-oriented states that rank high in commercial high tech employment are also active in several defense-related industries, although they tend to be more specialized in their defense orientation than Massachusetts and California.

The most important commercial high tech industries in these states are computers, semiconductors and instruments (measuring and controlling, medical and photographic). The chemicals industry accounts for a smaller fraction of employment in these states than it does nationwide. In contrast, chemicals tends to be quite important and computers, semiconductors and instruments relatively unimportant in the states with substantial commercial high tech and little defense activity.[15] Delaware is the extreme example of a high tech state with virtually no defense-related employment. In Delaware 15 percent of private employment is in commercial high tech; chemicals accounts for almost all of this.

These patterns suggest several conclusions. First, substantial employment in defense-related industries is not regularly associated with employment in high technology industries that are not themselves defense-related. In particular, the chemicals industry is not generally found in proximity with defense-related industries. Second, a link may exist between defense activity and the computer, semiconductor and commercially oriented instruments industries. However, substantial defense-related employment does not guarantee the presence of these industries, especially if the defense-related employment is concentrated in one large industry. Third, Massachusetts and California are not typical defense-oriented states or even typical high tech states, despite being regarded as the models for both.

That chemicals is not regularly associated with defense-related industries is not especially startling. Although chemicals and defense-related industries employ large numbers of professional and technical workers, the body of knowledge required in chemicals in quite different. Consequently, the opportunities for individuals or ideas to move between the chemicals industry and, for example, communications equipment are limited. Moreover, the location of the chemicals industry is influenced by such factors as resource availability and energy costs. The absence of an association between chemicals and defense-related industries is nevertheless significant as a reminder that not all high technology industries are the same. For many people the term "high technology" calls to mind the computer industry, and because of the computer industry's military origins, as well as the fact that most defense-related industries are also high tech, people tend to view all high tech as tied to defense spending. This is not the case. Even computers have grown beyond defense dependence. More generally, not all high technology industries have had -- or will have in the future -- the same history of development or pattern of location as computers.

High employment shares in computers, semiconductors and various types of instrumentation are frequently associated with high fractions of defense-related employment. However, the presence of a single large defense-related industry does not seem to favor the development of these industries. For shipbuilding, which is not a high tech industry, the absence of such an association is perhaps not surprising. The aircraft and parts industry is another matter.

Not only does the aircraft industry employ large numbers of engineers and technical workers, but, in addition, the product incorporates highly sophisticated navigation and communications systems, suggesting considerable interdependence between aircraft and other high tech industries. However, the presence of a large aircraft industry in Washington and Kansas has neither attracted other high tech industries nor generated spin-offs. This was also the conclusion of a study of the aerospace industry in Bristol, England; although some small-scale subcontracting took place locally, "the spawning of new companies by aerospace has been minimal." (Boddy and Lovering 1985, p. 224)

Although some of the defense-oriented states that are active in commercial high tech have large aircraft industries, other defense-related industries are also important. Perhaps the links from these industries -- missiles, communications equipment and electronics -- to computers and semiconductors are stronger than those between aircraft and commercial high tech. However, another interpretation is that a diverse high tech base is more favorable to further high tech development than the presence of one dominant technologically advanced industry.

Where one industry is dominant, opportunities for the cross-fertilization of ideas are limited. R&D advances are likely to be evaluated solely in terms of their applications in the dominant industry, and if not relevant set aside and ignored. Decisions not to pursue an idea may be explicit, but they may also come about simply because researchers are not exposed to different market needs and ways of doing things and, thus, fail to see other possibilities. Additionally, when a dominant industry is characterized by high wages and very large employers, as is the case for aircraft, other industries may have difficulty competing for workers. The problem is not so much that engineers and technical personnel are diverted from other activities, as these can be recruited nationally. Rather, large, high-wage employers may set the standard for what constitutes a "good job" in their area, forcing other local employers to match their wages and employment practices or risk morale problems and turnover. It has also been suggested that life in a big company can be so comfortable for professional and managerial workers that it discourages entrepreneurial endeavor. These concerns have been raised in connection with the auto industry's effect on industrial development in the midwestern states, but they also seem applicable to large, high-wage defense contractors.[16]

In a more diverse high tech environment, people working on defense-related projects are more likely to be exposed to alternative career paths, to technologies that might be complementary to ones on which they are working, to research questions they would not otherwise have considered, and to the opportunities in commercial markets. An interesting illustration of the potential for interaction is columnist David Warsh's recounting of how a Massachusetts physicist working on miniaturized devices for spies came to participate in developing an ultrasound-guided laser for removing plaque from arterial walls (Warsh 1987). The physicist attended a technology day sponsored by the Lahey Clinic, a Boston area medical center. The problem of seeing inside the artery was presented and the physicist recognized that his expertise offered a solution. Arthur D. Little, a prominent engineering consulting firm in the area, became involved; funds were raised and work begun on a prototype.

It is, of course, possible that some states have disproportionate shares of both defense-related and commercial high tech industries not so much because defense spending has led to commercial spin-offs but because their locational attributes -- for example, fine research institutions, generally high levels of education, and quality of life -- make them attractive locations for a variety of high technology industries, both defense-related and commercial. These are not mutually exclusive alternatives. An area might attract defense expenditures for much the same reasons that it is a center for commercial high technology industry, but the defense expenditures might then generate spin-offs reinforcing its commercial position.

It is important to recognize, however, that the number of states in which high levels of defense activity are associated with substantial commercial high technology employment is small. Defense spending may have contributed to their commercial high tech success, but it is difficult to generalize from the experience of so few states.

Role of Defense Research

A further reason for thinking that the Massachusetts experience in particular is atypical is the unusually high fraction of its defense contracts awarded for research, development, test and evaluation. While RDT&E accounts for less than 15 percent of all U.S. prime contract awards, in Massachusetts the RDT&E share is roughly 25 percent. Other states with disproportionately large RDT&E awards are California, Maryland, Washington, and, recently, Colorado and Utah.[17] Not only does Massachusetts receive a large share of RDT&E awards, but the state also differs from both the rest of the country and most other recipients of large RDT&E awards, including California, in the fraction of contracts awarded to universities and other nonprofit institutions. In the country as a whole, approximately 90 percent of RDT&E awards go to business firms. However, in Massachusetts the business share in the 1980s has been only 60 percent. M.I.T. and the nonprofit MITRE Corporation and Charles Stark Draper Lab account for almost all of the remainder.

Casual reasoning suggests that RDT&E awards would be more likely to result in technological advances than procurement awards generally. A significant fraction of all contract awards are not for sophisticated hardware but for more mundane purchases such as petroleum, food products, textiles and clothing, and construction. Moreover, even for advanced products, much of the value of the contract covers the cost of purchased materials and the assembly of the final product; design and engineering work is frequently paid for under a separate RDT&E contract.

Additionally, RDT&E awards to a university may have a greater chance of producing commercial spin-offs than awards to business firms. The university should provide an environment more favorable to cross-fertilization, in that faculty and students are exposed to colleagues from a variety of disciplines, drawing upon different bodies of knowledge to address different questions. The use of student researchers means that a stream of people with fresh ideas, some of whom will eventually work in commercial fields, are exposed to defense research efforts. Also, such university goals as enhancing a reputation for high quality research and providing graduates with attractive career opportunities can be furthered by the discovery of applications beyond the initial scope of a particular government contract. Even if the corporate defense contractor is alert to the possibility of commercial applications, it is unlikely to have much interest in applications that it cannot exploit itself.

Defense research, even at universities, is clearly not a sufficient condition for local commercial spin-offs. Maryland receives a disproportionate share of RDT&E contracts and The Johns Hopkins University accounts for much of this, yet Maryland has relatively little commercial high tech. Nevertheless, the research-intensive nature of Massachusetts' defense contracts may be part of the explanation for the association between defense activity and commercial high tech in the state. At a minimum, it is another reason why Massachusetts cannot be considered a typical defense state and why one cannot assume that links between defense and commercial high tech in Massachusetts will be replicated elsewhere.

III. Summary and Conclusions

The focus of this article has been the apparent contradiction between concerns that defense spending is undermining U.S. competitiveness by diverting skilled manpower and research monies from commercial to military ends, on the one hand, and the frequently cited links between defense and the development of high technology industries in Massachusetts and California, on the other. In an attempt to resolve this contradiction, Part I considered the relationship between defense spending and research activity at the national level, while Part II looked at the pattern of defense activity and high tech location by state.

While comparisons among countries suggest an association between high defense spending and low productivity growth, an examination of U.S. experience over time provides little support for the view that defense spending is the cause of poor U.S. performance. Defense spending does not appear to have squeezed out commercial research. The supply of engineers and scientists responds to employment opportunities, and except for a few specialties it is predominantly a commercial labor market. If there are too few professional and technical workers engaged in commercial R&D in the United States, defense spending is not the prime culprit.

States with substantial defense contracts or employment in defense-related industries tend to be states with high proportions of high technology employment -- because most industries with substantial military business are also high technology industries. However, one does not observe a statistically significant association between defense activity and employment in high technology industries that do not depend heavily on defense spending. While Massachusetts and California have relatively large shares of employment in both defense-related industries and more commercially oriented high technology industries, other defense-oriented states have relatively little commercial high tech.

A comparison of the composition of defense-related industries in Massachusetts, California and the small number of other states with substantial representation in both areas reveals that these states tend to have more diverse defense establishments than defense-oriented states lacking commercial high tech. Additionally, an unusually large fraction of defense contract awards in Massachusetts and California goes for research, development, testing and evaluation. Such differences could mean that defense research and procurement activity has fostered high technology development in these states even if it has not in others. However, they also mean that the Massachusetts and California experience is not typical.

In conclusion, there is little evidence that defense spending has had a pernicious effect on innovation in the United States, but also little indication that defense spending provides a general impetus to high technology spinoffs at the state level. While defense may have spurred commercial high tech development in Massachusetts and California, these states are neither typical defense states nor typical high tech states -- even though they are the stereotypes for both.

Endnotes

[1] For a good discussion of these issues, with a different point of view from that presented here, see Tirman (1984).

[2] Given recent concerns about U.S. competitiveness, it is interesting to find that the relationship between defense spending and productivity growth in the 12 countries in Table 1 has weakened over time. If one looks separately at the experience in the 1960s, 1970s and 1980s, one finds a statistically significant negative association between (a) productivity growth in the 1960s -- either GDP per person employed or manufacturing output per hour -- and (b) end-of-decade defense spending relative to GNP. Countries with high defense spending tended to have low rates of productivity growth. For the years 1970 to 1980 the relationship is still negative but does not meet the 5 percent standard for statistical significance. In the 1980s productivity growth slowed in almost every country other than the United States, so that high defense spending relative to GNP was not associated with low rates of productivity growth from 1980 to 1986: The relationships between measures of productivity growth and defense spending in this period are not statistically significant, and in the case of manufacturing output the relationship is positive.

[3] This is not the only way in which defense spending may affect competitiveness. One argument sometimes heard as the Reagan defense buildup got under way ran as follows: defense spending contributes to the federal budget deficit; the deficit causes interest rates to be higher than they would be otherwise; higher interest rates discourage investment spending; and lower investment spending leads to lower productivity growth and reduced competitiveness. The counterargument is that the federal budget deficit is the result of many expenditure and revenue decisions, so that defense should not be singled out for blame. Moreover, even if defense is seen as a major reason for large budget deficits, not everyone agrees that the deficit results in higher interest rates, or that business investment in plant and equipment is very sensitive to interest rates. It appears that the fraction of real GNP devoted to nonresidential fixed investment in 1988 will be a post-World War II record.

Another criticism of defense spending, closer to that considered in this article, is that it occurs at the expense of education and other programs that result in a more productive labor force and, thus, a more competitive economy. For more complete overviews of the effect of defense spending on the U.S. economy, see Adams and Gold (1987) and the U.S. Congressional Budget Office (1983).

[4] The responsiveness of college enrollments to changing economic conditions was illustrated particularly clearly in the 1970s: first-year engineering enrollments dropped sharply in the early 1970s following cutbacks in defense spending and increases in engineering unemployment rates; they then soared in the second half of the decade as commercial demand surged, defense demand stabilized and the engineering labor market tightened. See U.S. Congress, Office of Technology Assessment (1985, p. 93).

[5] Superconductivity is another field thought to have considerable commercial potential, and both Japan and the United States are mounting research efforts. However, in the United States much of the research will be funded by the Department of Defense, which sees implications for the Strategic Defense Initiative as well as commercial opportunities. See the report on Japan's research on superconductors by the Japan Economic Institute (1987).

[6] While political concern for regional equity could limit the extent to which states receiving defense research monies also receive funds for nondefense research, differences in research interests and capabilities are likely to result in trade-offs occurring among states rather than within. Thus, defense research in Massachusetts could come at the expense of medical research in North Carolina or energy research in Texas rather than nondefense research in Massachusetts.

[7] See Hekman and Strong (1981), Malecki (1986) and Warsh (1986).

[8] The list of high tech industries in Table 2 represents something of a consensus; it includes the industries most commonly called high tech without being so broad as to encompass industries for which a high tech designation would strike most readers as inappropriate.

[9] See figures on defense spending by state in the National Journal, May 31, 1986, p. 1319. For the purposes of this article, examining the impact of defense activity on the development of high technology industries, a second drawback to the prime contract data is that they include contracts for various mundane purchases, such as construction, services, uniforms and petroleum, that one would not expect to have much effect, positive or negative, on high technology industries. This is not a major defect, however, as approximately three-quarters of the awards, by value, are for aircraft, ships, electronics and communications equipment, and other "hard goods." Moreover, a criticism sometimes made of the prime defense contract data -- that they are only a partial measure of a state's defense activity because they do not include military payrolls -- is probably an advantage in the present context. One would not expect the presence of a military base, in itself, to be a stimulus to high tech development. While Markusen (1986a) has argued that defense contractors tend to locate near bases, so that a link may run from bases to procurement and to high tech, the prime contract data would capture the second half of the chain.

[10] Had defense-related industries been defined according to the defense share of output in 1985 the list would have included many more traditional industries. However, as described in the text, the large shares of traditional industry output attributable to defense spending were due as much to unusually weak commercial demand as to strong defense demand. Under more normal circumstances, these industries would not be considered defense-related.

[11] The correlation between the two measures of defense orientation has a coefficient of 0.70; the rank order correlation coefficient is 0.67. If SIC 2819 were considered a defense-related industry, the ranking of the states according to the share of employment in defense-related industries would not be very different. The top 10 states would still be the top 10.

[12] The exceptions were Utah, which moved from 12th in 1979 to 7th, and Vermont, which rose from 13th to 8th, replacing Mississippi and Missouri.

[13] Kansas moved from 11th in the earlier period to 8th; Maine slipped from 10th to 13th.

[14] The results in Table 5 are not affected by classifying industrial inorganic chemicals (SIC 2819) as a defense-related industry. In addition, if commercial high tech is expressed as a fraction of private nondefense employment rather than total private employment, the results are still statistically insignificant. In other words, there is not a statistically significant association between state defense activity and commercial high tech employment, measured either as a fraction of private employment or as a fraction of private nondefense employment.

[15] Classifying industrial inorganic chemicals (SIC 2819) as a defense-related industry would reduce chemicals' share of commercial high tech employment. For the nation and for most states the effect is minor. However, it would affect the categorization of several states shown in Table 6. In particular, the defense orientation of Tennessee and South Carolina would be increased and the commercial high tech orientation of these states would be reduced sufficiently to exclude them from the low defense-related, high commercial high tech group. Delaware would not be affected to any noticeable degree and chemicals (excluding both SIC 2819 and SIC 2892) would still be considerably more important in the states with low defense-related and high commercial high tech employment than in the states with high levels of both defense-related and commercial high tech employment.

[16] An exception might arise when the location decision of a large high tech firm alerts other high tech companies to an area's hitherto unappreciated locational advantages.

[17] Missouri received a very large fraction of RDT&E awards in the late 1970s, but through most of the 1980s its share has been roughly in line with employment.

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JEI REPORT

A Two-Part Report: A and B

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Impact Of Tax Reform Debated

Full Diet approval of a broad tax reform program has not stilled domestic debate on the merits and shortcomings of the changes. The government continues to see mainly positive results, but many private economists and academicians argue that the changes are only the first step toward truly comprehensive tax reform.

According to a consensus of government economists, the planned tax reductions, including cuts in personal and corporate income taxes, will outweigh the introduction of a 3 percent consumption tax and some other increases by roughly Y2.6 trillion ($20.8 billion at Y125=$1.00) in FY 1989, which begins April 1. The changes will add approximately 0.2 percentage point to the nation's inflation-adjusted gross national output for the 1990-1993 fiscal years. The reforms also are expected to pull in more imports, reducing Japan's current account surplus by approximately $5 billion annually in fiscal years 1988-1991, according to the government. Tokyo expects the share of total revenue derived from direct taxes to decline from 73 percent in FY 1987 to about 67 percent in

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FY 1989. Observers have pointed to the government's past heavy reliance on direct taxes as an indicator of the tax system's inequities. The only downside to the changes is a projected increase in consumer prices of about 1.1 percent for FY 1989.

Foreign producers of alcoholic beverages could benefit handsomely from upcoming changes in liquor taxes. Replacing the current ad valorem tax structure with a specific tax system should reduce the tax burden significantly on imported beverages and sharpen their competitive position vis-a-vis domestic products. A 760-milliliter bottle of top-grade imported whiskey now costs around Y3,170 ($25.36) but could cost as little as Y2,450 ($19.60) after the tax changes. Many domestic distillers, moreover, will face higher taxes; the price of a 640-ml bottle of domestic whiskey could jump from Y670 to Y1,100 ($5.36 to $8.80). European Community exporters have urged Japan to make these changes for many years. American producers of wines and whiskey, too, are likely to benefit.

Also expected to reflect the impact of tax reform are the domestic prices of a wide range of big-ticket or luxury items. Current commodity taxes, for example, are higher for large cars and motorcycles than smaller models. The 3 percent consumption tax will replace current commodity taxes over five years, sharply reducing levies in some cases (see Table). Domestic car makers already are gearing up for a price war during the few months before the tax changes take effect, anticipating that consumers will try to delay car buying until the lower rates kick in. At the same time, importers of foreign cars are planning to pass on as much of the tax reduction as possible in order to increase their share of the Japanese market.

Japan's Motor Vehicle Taxes

(in percent)

	Current Commodity Tax	FY 1989-FY 1991	After FY 1991
Cars			
Large (over 2,000 cc)	23.0%	6.0%	3.0%
Medium (over 550 cc)	18.5	6.0	3.0
Small (under 550 cc)	15.5	3.0	3.0
Vans			
Large (over 550 cc)	10.5	3.0	3.0
Small (under 550 cc)	5.5	3.0	3.0
Three-Wheel Cars and Motorcycles			
Large (over 150 cc)	10.0	3.0	3.0
Small (over 50 cc)	5.0	3.0	3.0

Sales of home appliances and other consumer durables also may get a boost. Both the current 20 percent tax on large refrigerators, air conditioners and large televisions (with screens of 28 inches or greater) and the 15 percent tax on washing machines, videocassette recorders, cameras and smaller televisions will be replaced by the 3 percent consumption tax. Restaurant meals, theater tickets and sports equipment also will be taxed at reduced levels, helping to spur domestic consumption.

Charges for utilities are expected to change only slightly, if at all. The cost of gas for cooking and heating will rise slightly as the tax rate increases from 2 percent to 3 percent. Electric bills are likely to decline somewhat as the tax rate will fall from 5 percent to 3 percent, translating into a Y117 ($0.94) reduction in an average household's monthly expense. The Ministry of International Trade and Industry currently is mulling a reduction in basic utility rates to counterbalance the tax changes where necessary.

Bills for water, mail, telephone and other services will rise slightly after losing their tax-exempt status. The Home Affairs Ministry is recommending that local governments pass on the full 3 percent increase to consumers for water, sewer, trash and public transportation services. The cost of mailing a letter also will increase a tiny bit: the rate for letters will rise to Y62 ($0.50) from Y60 ($0.48) and a postcard will cost Y41 ($0.33) to mail after April 1, compared with the present Y40 ($0.32). Train, bus and taxi fares are likely to be raised, while the cost of air travel is expected to decline when a uniform 3 percent tax is applied.

All these projections, critics point out, are based on two critical assumptions: that businesses will not raise prices more than 3 percent and that they will pass on the majority of any tax savings to consumers. Although deregulation has reduced the government's means of directly influencing prices, Ministry of Finance officials and the Bank of Japan have stated clearly that price increases in excess of 3 percent will be examined carefully. The Japan Fair Trade Commission will allow small businesses to form cartels to smooth the introduction of the new consumption tax but will limit any price increase to 3 percent. A recent Nihon Keizai Shimbun survey of Japanese businesses revealed that most did not think prices would jump excessively and that they expected to raise prices by 3 percent or less.

Critics respond that the tax reforms will leave many inequities in place. Foremost among the complaints is that the changes do not tighten the income reporting rules for farmers or self-employed people; they account for the majority of tax evasion. The lax rules have become a sore point with salaried workers who cannot avoid automatic tax withholding from their paychecks. Particularly galling to many is that doctors and religious organizations will retain preferential tax treatment under the reformed system.

Many outside the government also contend that the increases in national and local personal income tax credits and deductions are insufficient to offset the 50 percent jump in the cost of living since 1977, when deductions were last raised. Others point out that only couples making more than Y7 million ($56,000) will be able to take advantage of many of the new rules. Most private economists also feel that the new consumption tax will be more regressive than the government foresees despite the exemptions for food, housing, medical and education costs. On balance, many business analysts calculate that only 60 percent of Japan's households will see their total tax bills reduced, compared with the government's estimate of nearly 100 percent.

The debate over the impact of the controversial tax reforms should be resolved within the next 12 months. Tacitly recognizing that more needs to be done, however, the government now is considering another round of reductions in income and other taxes for the coming fiscal year.

Jon Choy

Both sides recognize the mutually damaging effects of aviation sanctions. This might be one reason why Washington has held off in imposing sanctions against JAL, which has refused to allow United to issue JAL tickets in Japan through United's computer reservation system. (DOT announced December 14 that it would prohibit all U.S. carriers that operate computer reser- vation systems in the United States from selling JAL tickets here if Japan's largest airline refused to alter its position within 31 days.)

Unfortunately, this recognition still has not enabled the United States and Japan to bridge the philosophical chasm that continues to block conclusion of a new, comprehensive bilateral aviation agreement (see JEI Report No. 13A, April 1, 1988). The Flying Tiger/NCA dispute and the JAL ticketing issue represent still more operational issues that divert negotiators' time and energy from tackling more difficult issues, such as the overall expansion of route authority, that go to the heart of the regulatory debate.

Barbara Wanner

Tokyo Extends Car Export Restraints For Ninth Year

The conventional wisdom is not always right. That truism was underscored January 10 when International Trade and Industry Minister Hiroshi Mitsuzuka disclosed that Japan's car exports to the United States would remain capped at 2.3 million units through March 1990 (see JEI Report No. 44B, November 18, 1988). Trade and industry analysts on both sides of the Pacific had argued that the end of Ronald Reagan's presidency afforded Tokyo a now-or-never political opportunity to return to unrestricted bilateral trade in cars since one of his administration's first foreign economic policy moves was to maneuver the Japanese government into limiting U.S.-bound car shipments.

The export figures provided an equally strong economic case for an end to managed trade in cars, according to the conventional wisdom. Shipments were 85,851 vehicles below the 2.3-million-unit ceiling in the April 1987-March 1988 period, and they are likely to fall short of the quota by a similar volume in the current fiscal year. Exports through November totaled 1,479,604 units or 10.4 percent less than in the year-earlier period, which works out to an 80,600-unit annualized shortfall in FY 1988.

The flip side of the continued cutback in exports, analysts noted, was another drop in U.S. sales of Japanese-made vehicles in 1988. After 11 rounds of price hikes since September 1985 averaging at least $3,000 for the major nameplates, sales of cars imported from Japan, which had fallen 8.9 percent in 1987, dipped 3.4 percent last year to 2,088,323 units. This decline trimmed the market share of Japanese-made cars from 21.2 percent to 19.7 percent, the lowest figure since 1984 (see Table). Adding in the expanding volume of cars assembled in this country by Japanese automotive makers obviously changed the sales numbers but not the conclusion that Japan's nine car manufacturers were fighting an uphill battle in 1988. Their American marketing units retailed 2,449,523 cars, 2.6 percent more than 1987's then-record total, but the market share captured by Japanese nameplates slipped from 23.4 percent to 23.1 percent.

These export and sales figures alone proved that Japan's restraints on U.S.-bound car shipments have become irrelevant, the conventional wisdom said,

U.S. Retail Car Sales, 1983-88

(units)

Manufacturer/Seller	1983	1984	1985	1986	1987	1988
Japanese Imports						
Toyota Motor Corp.	555,766	557,981	620,047	633,914	583,809	616,529
Honda Motor Co., Ltd. (incl. Acuras)	350,670	374,819	406,413	458,268	421,688	393,360
Nissan Motor Co., Ltd.	521,902	485,298	535,372	494,294	409,476	360,745
Mazda Motor Corp.	173,388	169,666	211,093	222,676	206,354	224,719
Fuji Heavy Industries, Ltd. (Subaru)	156,840	157,385	178,175	179,100	175,864	155,946
Mitsubishi Motors Corp.	32,755	39,104	49,734	49,436	67,954	70,075
Isuzu Motors Ltd.	20,731	17,233	26,953	38,910	39,587	24,520
Daihatsu Motor Co., Ltd.	0	0	0	0	0	11,460
Suzuki Motor Co., Ltd.	0	0	0	0	0	734
Mitsubishi Motors Corp./Chrysler Corp.	103,569	91,718	105,213	135,528	120,337	113,800
Isuzu Motors Ltd./General Motors Corp.	0	2,077	53,593	99,380	76,852	68,347
Suzuki Motor Co., Ltd./General Motors Corp.	0	10,927	31,267	60,983	60,359	48,088
Domestic Makes						
General Motors Corp.*	4,053,561	4,587,508	4,607,458	4,532,798	3,555,538	3,641,542
Ford Motor Co.**	1,571,321	1,979,317	2,070,392	2,066,507	2,019,783	2,205,336
Chrysler Corp.	841,622	986,998	1,139,936	1,173,463	962,057	1,062,782
American Motors Corp.	193,351	190,255	123,449	72,848		
Volkswagen of America Inc.	85,045	73,838	77,535	73,912	61,064	24,939
Honda of America Manufacturing, Inc.	50,402	133,601	145,976	235,247	316,618	375,625
New United Motor Manufacturing Inc./ General Motors Corp.	0	0	35,594	170,507	134,956	96,868
New United Motor Manufacturing Inc./ Toyota Motor Sales USA Inc.	0	0	0	7,281	44,853	57,637
Nissan Motor Manufacturing Corp. U.S.A.	0	0	39,794	52,602	119,678	112,125
Mazda Motor Manufacturing (USA) Corp./ Mazda Motor of America, Inc.	0	0	0	0	1,671	31,331
Mazda Motor Manufacturing (USA) Corp./ Ford Motor Co.	0	0	0	0	0	77,763
Toyota Motor Manufacturing, U.S.A., Inc.	0	0	0	0	0	14,717
Total Japanese Imports	1,915,621	1,906,208	2,217,860	2,372,489	2,162,280	2,088,323
Total Imports	2,385,734	2,441,713	2,841,063	3,239,043	3,144,048	3,065,404
Total Domestic Makes	6,795,302	7,951,517	8,204,721	8,214,662	7,081,262	7,526,034
Total Market	9,181,036	10,393,230	11,041,784	11,453,705	10,225,310	10,591,438
Market Share of Japanese Imports	20.9%	18.3%	20.1%	20.7%	21.2%	19.7%

*Starting in 1985 includes the Nova made by New United Motor Manufacturing Inc.
**Starting in 1988 includes the Probe made by Mazda Motor Manufacturing (USA) Corp.

Source: Automotive News

but if any additional evidence was needed, Detroit's recent financial performance supplied it. Automotive analysts predict that the Big Three's net income topped $11 billion in 1988 -- well above the existing all-time-high profit figure of $9.8 billion set in 1984 and at least 15.8 percent higher than 1987's earnings. Sales of cars built in North America by General Motors Corp., Ford Motor Co. and Chrysler Corp. were up 5.2 percent last year to 6,735,029 units, thanks to the aggressive use of incentives and a stronger-than-expected car market. This total admittedly was 14.8 percent below the figure for 1985 -- the industry's best year for U.S. car sales in the 1980s, but record-breaking Big Three truck sales swelled the bottom line and that's what counts in Detroit.

If the arguments supporting an end to managed trade in cars were so persuasive, why did Tokyo defy the conventional wisdom and extend the shipment restraints for a ninth year? For the record, MITI officials said they were not convinced that the cutback in exports would continue. Although monthly exports were running well behind year-earlier levels in the April-August period, the margin narrowed in both September and October. November shipments were 4.5 percent higher than the comparable 1987 number, and the increase in December is thought to have been even bigger. In reality, though, the decision to leave the quotas in place for FY 1989 was strictly political, dictated by worries about a resurgence of protectionism in Washington in an era of $50 billion-plus bilateral trade deficits.

MITI Minister Mitsuzuka held out the possibility that the export limits would be lifted before March 1990 if shipments declined over a sustained period; so had his predecessor (see JEI Report No. 6B, February 12, 1988). But having passed up what most analysts regarded as a unique opportunity to end the restraints, the Japanese government is unlikely to take this step anytime soon.

Susan MacKnight

Notes

FSX - U.S. and Japanese industry have reached an agreement concerning how to divide the development work on Japan's next-generation fighter support aircraft, dubbed the FSX. Although a government-to-government agreement, concluded November 29, 1988, formally launched joint development of the FSX, Mitsubishi Heavy Industries, Ltd. and General Dynamics Corp., the prime contractor and main subcontractor, respectively, remained embroiled in sometimes acrimonious negotiations over who would do what -- principally in the area of wing design (see JEI Report No. 46B, December 9, 1988). Under a January 12 agreement, General Dynamics will manufacture the wings for one of the six prototypes scheduled to be built by 1993. Overall, the accord guarantees the American defense subcontractor approximately 40 percent of the project's research and development work.

The wings will be made from composite materials using the most sophisticated technologies. General Dynamics would like to use this know-how to upgrade its F-16's wings and has argued that only by participating in prototype production can it gain the knowledge necessary to do this. MHI has been reticent about transfering the technology due, in part, to concerns that it would be subsidizing improvements to "the competition's" product.

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REPORT

A Two-Part Report: A and B

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JAPANESE FIRMS: COPING WITH THE HIGH YEN

Summary

Since 1985 the Japanese yen has almost doubled in value against the dollar and gained significantly against the currencies of its other major trading partners. For Japanese exporters this means that a given dollar-denominated sale in the United States, for example, fetches only about half as many yen as it did before. As they drafted strategies for the late 1980s, firms with their costs in yen and their revenues in dollars appeared to face a bitter choice: raise their prices in dollars and see their sales in foreign markets plummet or hold the line on dollar prices and suffer sharply lower profit margins. Either way, profits could be expected to plunge.

Japanese firms to date may have escaped this dilemma. Today many are enjoying record high profits, having obviously coped far better than expected with the soaring yen. In part, they can be credited with actions that led to their good fortune, but external factors over which they have little control also have played a role. Hindsight shows, as well, that the initial expectations of both outside observers and the firms themselves were based on an incomplete understanding of how exchange rate changes affect economies. On closer examination, however, the reactions of Japanese firms look like predictable, textbook responses to movements in the currency markets.

The Yen's Appreciation -- A Retrospective

In a now famous September 1985 meeting in New York City's Plaza Hotel, the finance ministers and the central bankers of the world's five leading industrial countries hammered out an agreement to realign their currencies (see JEI Report No. 40A, October 21, 1988). They may have been more successful than they intended. From the Y242=$1.00 value that prevailed immediately prior to the meeting, the yen by early 1988 had risen as high as Y121 to the dollar. Since then it has fluctuated between that level and Y137 to the dollar. But, for a number of reasons, the 1985 meeting may be the wrong starting point and the yen-dollar rate the inappropriate measure if the objective is to measure how well Japanese firms have adjusted to the high yen.

- While the United States is Japan's most important trading partner, Japan trades with many countries. If those other countries' currencies rise in tandem with the yen, Japanese firms are able to maintain their competitive position. Even if, as is often the case, trade is denominated in dollars, Japanese exporters will be able to sell their products in those countries at approximately unchanged local currency prices.

- Exchange rates had begun a process of realignment some months earlier. For example, the dollar's peak against the yen actually occurred in February 1985.

- Prior to the appreciation that began by all accounts sometime in 1985, the yen and other currencies were at low levels against the dollar, reflecting several years of "benign neglect" that had permitted the dollar to increase in value.

- Inflation rates differ by country. Countries with higher rates of inflation than their trading partners may require a continually depreciating currency just to maintain existing levels of competitiveness.

Putting all these factors together, International Monetary Fund statistics suggest that the yen was about 3 percent weaker against the dollar in September 1985 on a trade-weighted, price-adjusted basis than it was in 1980. Considering the time it takes customers to respond to more favorable prices, the existence of long-term contracts and the time lost in filling and shipping orders, Japanese firms may have enjoyed the delayed benefits of a weak currency well into 1986 even while the yen was appreciating in value.

The yen's appreciation against its trading partners' currencies has been an ongoing process, at least until recently. As of September 1988 it had risen a real, trade-adjusted 32.5 percent compared to 1980 and 35.9 percent in the three years since the Plaza Accord. While remarkable, this three-year run-up in value is still far less than the 78.3 percent nominal rise measured against the dollar alone. Overall, according to the IMF's data, the yen has averaged a 3.7 percent gain in inflation-adjusted terms each year since 1980, suggesting a much less daunting challenge for Japanese firms than the rapid run-up over a shorter period of time implies.

The magnitude of the challenge facing Japanese firms, then, depends on the perspective they adopted. Those who believed that the weak yen of early 1985 would persist surely were shocked by the currency's subsequent rise and

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had to scramble to adjust. Those who adopted the long view were more likely to take the rapid rise over three years in stride. In fact, most Japanese firms appear to have fallen into the first camp and were unprepared when the yen started soaring. The story of how they and the Japanese economy adjusted is all the more interesting for that reason.

Exchange Rate Adjustments and the Economy

The yen's appreciation has affected every part of the Japanese economy.

Exports and Imports - When the yen appreciated, Japanese exporters found that, unless they increased their prices in foreign currencies, they received less in their own currency. Since they had to pay their workers, buy materials and provide a return to their stockholders in yen, foreign markets lost some of their appeal. They had two options regarding export pricing: raise their foreign currency prices, thereby selling fewer units than before abroad, or keep their prices unchanged, resulting in lower per-unit profits. Lower per-unit profits would make firms less interested in selling abroad. In short, production for export was likely to decline whether dollar prices were raised or not. Other factors being equal, unemployment or underemployment would rise and capacity utilization would decline. With many reasons to hold the line on dollar-denominated prices and few to raise them, yen-denominated export prices on average would decline substantially.

While exporters suffered from the yen's appreciation, importers had a heyday. Foreign goods became cheaper in yen even if the foreign supplier slightly raised prices. The Japanese importer then either could lower his own prices to Japanese consumers, redouble his efforts for promotion or offer better service for the same price in yen since his import costs were now lower. Either way, he was likely to capture sales from the locally based competition, leading to a second effect on the domestic economy: firms competing against import had to retrench, an action that, unless somehow offset, implied still higher unemployment or underemployment.

Comparing unit labor costs in manufacturing is one way of illustrating the plight of both exporters and importers. According to Professor Donald J. Daly of Canada's York University, between 1984 and early 1988 Japan's unit labor costs went from being 34 percent lower than those in the United States to 28 percent higher, although Japanese unit labor costs were still lower than those in Europe and Canada.[1]

The Wider Impact - If the yen adjustment process had involved only exporters, importers and import-competing firms, most Japanese would have been virtually unaffected since, like Americans, most work for firms that have little to do with foreign trade. Well over 30 million Japanese work for companies producing nontraded goods and in services industries, such as restaurants. They need not worry that imported goods or services will throw them out of business. (Foreign fast food outlets such as McDonald's -- which are very popular in Japan -- are the exception that prove this rule. At most only their capital and a few raw materials are imported. Most of their costs are for labor, which they hire locally.)

[1] Donald J. Daly, "Japanese Manufacturing Competitiveness: Implications for International Trade," Working Paper Series No. 53, Toronto: University of Toronto-York University Joint Centre for Asia-Pacific Studies, 1988, P. 22.

Workers and managers of companies making nontraded goods or providing services nevertheless felt a very strong impact from the yen's appreciation, partly because wage demands moderated throughout the economy. Companies in some export and import-competing product lines appeared to have surplus workers, who were generally available for alternative employment, either reassigned by their employers as part of a diversification move into nontraded goods lines or seeking another job on their own. To compete against the workers already in place, the job changers had to accept lower wages than otherwise.

In addition, inflation, already low, declined. Raw materials prices led the way -- plummeting 41.1 percent between 1985 and October 1988 -- but even wholesale prices for final goods dropped 5.8 percent during the same period. Moderate wage settlements played a role. So did the increase in imports of manufactured products, which may have dipped in price for the reasons given above. And exporters turned to the domestic market to sell their products. To make any headway, they had to cut prices, too. All these downward pressures on prices fed back on the export and import-competing sectors, offsetting some of their loss of international competitiveness. Even the moderate wage settlements looked acceptably attractive to workers in the face of lower inflation. In fact, real wages in the manufacturing sector continued to rise throughout the period of adjustment to the yen's appreciation that began in 1985.

The Role of Government Policies - Of course, government played a role. If it had reflated the economy to reduce unemployment arising from the problems of the export and the import-competing sectors, it would have risked depriving the economy of some of the benefits, direct and indirect, of the yen's appreciation. Keeping unemployment low and maintaining price stability are both important. Striking the right balance is not easy.

After 1987, at least, the Bank of Japan pursued a loose monetary policy, and the government operated under an expansionary fiscal policy. Under normal circumstances the BOJ policy, especially, might have been expected to lead to large price increases. Among other effects, these actions eased the burden of exchange rate changes for exporters, which experienced strong domestic demand for their products and, along with other producers, lower interest costs.

The policies so far have not led to overall inflationary pressures. Price changes have been consistent with the pattern suggested above: import and export prices have posted large declines, at least at the wholesale level, with domestic prices generally sharing some of the benefits and showing a remarkable stability (see Table 1). Domestic products compete as a source of supply with imports; domestic demand products are those products that are not exported.

Compared to wholesale prices, the ripple effect of exchange rate changes on consumer prices has been modest but, as of November 1988, they were only 2.2 percent higher than the average 1985 level, an outstanding performance in the light of double-digit annualized increases in the money supply in 1987 and 1988.

The Result: Shifting Industrial Structure - With so many changes set in motion, predictions became tricky. When the dust settled, the nontraded sectors of the economy could have been expected to have grown at the expense of the export and the import-competing sectors. These secondary reactions would have reduced or even reversed the initial effects of the currency appreciation on the economy as a whole. But, because they were so hard to predict precisely, many analysts ignored these possible reactions during the early phases of yen appreciation in 1985 and the first part of 1986, making them too pessimistic about the ability of the economy to cope with the changes. As the process continued to unfold and as the yen's appreciation became more pronounced in late 1986 and 1987, these secondary effects became more apparent.

Table 1: Japan's Wholesale Price Index

(1985=100)

	Total	Domestic Products	Imports	Domestic Demand Products	Exports
1981	101.9	101.3	106.7	101.7	103.2
1982	103.7	102.2	115.1	103.3	107.3
1983	101.4	100.8	106.1	101.5	100.8
1984	101.1	100.9	102.5	101.1	101.5
1985	100.0	100.0	100.0	100.0	100.0
1986	90.9	93.8	64.2	91.8	84.9
1987	87.5	90.6	58.9	88.5	80.6
October 1988	86.7	90.0	56.5	87.8	79.8

Source: Bank of Japan

Data from a variety of sources demonstrate clearly the shifts that have occurred among Japanese industries. During the early 1980s, when the yen was comparatively weak, the manufacturing sector grew at the expense of the rest of the economy, whether measured by employment (see Table 2) or by sales (see Table 3). Since 1985 the process has been reversed: the rest of the economy has grown faster by both measures. Within the manufacturing sector, exports as a percentage of total sales increased from 1981 to 1985 but have declined since.

These data of course cannot demonstrate that the yen's appreciation was responsible; for example, to stimulate the domestic economy government policies would have moved the economy in the same direction even in the absence of exchange rate realignments. Still, the correlation between exchange rate movements and shifts in industrial structure is striking. Relative price changes -- which in this case reduce the measured share of exports in total manufacturing output -- have the effect of exaggerating the actual movement. Employment changes, however, which occur more slowly than demand shifts, have the opposite effect. Demand shifts can be expected to lag behind exchange rate changes. In short, while the data are far from perfect, they do not necessarily misrepresent the relative decline in export-oriented manufacturing.

A Bank of Japan analysis, using profit rates, also points toward a decline in the importance of export-oriented manufacturing. In fiscal years 1983 and 1984 (April 1, 1983-March 31, 1985), exporters had higher rates of profit than domestically oriented manufacturing firms. As the yen appreciated in 1985, export-oriented firms became less profitable, while domestically oriented firms' profits were steady. Despite a recovery beginning in FY 1986 for exporters, firms supplying the domestic market became more profitable than export-oriented companies and were expected to remain so at least through the end of FY 1988.[2] As firms respond to these profit signals, export-oriented industries will shrink relative to the rest of the economy.

Table 2: Japan's Changing Employment Structure

	Manufacturing Employment as Percent of Nonagricultural Employment*
1981	27.3%
1982	26.9
1983	26.8
1984	27.1
1985	27.2
1986	26.7
1987	26.1
1988 (January-October)	26.0

*Average of month-end figures.

Source: Management and Coordination Agency

Table 3: Japan's Changing Production Pattern

	Manufacturing Sales as Percent of Total Sales	Exports as Percent of Manufacturing Output
FY 1981	32.2%	24.5%
FY 1982	31.0	24.1
FY 1983	32.4	24.5
FY 1984	31.2	25.6
FY 1985	31.5	25.1
FY 1986	30.7	23.5
FY 1987	29.2	21.5

Note: The data in the two columns come from different surveys and therefore are not strictly comparable.

Source: Calculated on the basis of Ministry of Finance and Bank of Japan data.

[2] Bank of Japan, "Corporate Fixed Investment in Japan: Recent Expansion and Sustainability," Special Paper No. 167, September 1988, P. 33.

How Exporters Have Adjusted to the Strong Yen

Individual managers whose firms were reeling under the impact of the currency realignment took small consolation from the fact that their brethren in other industries were doing well as a result of the strong yen. Naturally, they wanted to do what they could to cope with their own predicament. Perhaps foremost among the questions facing them was what to do about export markets.

Exporters were in the fortunate position of finding that their overseas markets were drawing strength from the greater than expected growth in foreign economies, including that of the United States. If the yen had not appreciated, the markets for Japanese exports undoubtedly would have grown. As it was, economic growth abroad cushioned the impact of any export price increases.

For one group of exporters, the choice regarding prices was easy. If the markets for their products were highly competitive, raising prices was out of the question. In extreme cases, even a modest price increase would lead them to lose their entire overseas market. In these instances, they could be expected to scale back their level of production for export by at least using fewer workers and idling inefficient facilities. The idea was that the marginal good shipped overseas must not lead to smaller profits. For such firms, strategies to maintain market share made little sense; the firms had nothing in extra profits they could sacrifice for other goals.

Other companies were able to raise their prices substantially without losing their export markets. Clearly, hefty price increases on Japanese cars have not led Americans to abandon the dream of owning a new Toyota or Honda. Even for automotive manufacturers, though, higher prices have an effect: if the price goes high enough, potential American buyers of Japanese cars will opt either to keep their old car, substitute a European or Korean alternative, buy a low-end Japanese make or even purchase one of Detroit's offerings.

Despite the large price increases, Japanese car makers have been singled out for raising their prices less than they might have. One reason has to do with the restrictions on how much they can ship to the U.S. market. For car manufacturers and some other groups of exporters, Japanese export restraints, forced on Tokyo by Washington, artificially restricted the supply of Japanese-made products, raising their price or creating shortages prior to 1985. Given this background, a modest appreciation of the yen would lead a profit-seeking firm to hold the line on dollar prices, selling about the same volume as before at a smaller, but still ample, per-unit profit. The reason is that, at the original dollar price, the company would not be induced to offer less than its quota, leading the market to clear at the original price. Only substantial yen appreciation would lead to price increases.

With or without import restrictions or export quotas, no profit-seeking exporter would normally raise his dollar prices by the full amount of the yen's appreciation; to do so would invite sales to fall below the point of maximum profits, assuming that the product was not originally underpriced. Export price data bear out this assertion (see Table 4). Between 1985 and 1988 Japanese exporters in virtually every product line raised their foreign prices by less than the yen's appreciation. (Exceptions arise, for example, because worldwide dollar-denominated prices are rising in some competitive industries and Japanese firms are merely hopping on the bandwagon.)

Table 4: Extent of Dollar's Depreciation Passed Through in Japanese Export Prices, September 1985-October 1988

Product Line	Pass Through
Cars	64.2%
Trucks	58.0
Automotive Parts	50.6
Motorcycles	90.1
Ships and Boats	-10.0
Electric Machinery	51.5
Electric Power Apparatus	88.9
Insulated Wire and Cable	147.9
Television Sets	38.7
Videocassette Recorders	10.0
Radio Receivers	78.2
Microphones, Loudspeakers and Amplifiers	69.6
Appliances	63.7
Integrated Circuits	92.6
Nonelectric Machinery	60.6
Internal Combustion Engines	74.2
Agricultural Machinery	52.9
Computers and Peripheral Equipment	43.3
Other Office Machines	56.1
Metalworking Machinery	49.1
Textile Machinery	69.4
Construction and Mining Machinery	57.1
Heating and Cooling Equipment	119.3
Pumps and Centrifuges	65.7
Mechanical Handling Equipment	61.9
Bearings	73.9
Precision Instruments	60.6
Scientific and Optical Equipment	65.5%
Cameras	61.4
Copiers	74.2
Watches and Clocks	41.7
Steel	76.3
Bars, Rods, Shapes and Sections	92.4
Plates and Coils	62.7
Tubes and Pipes	49.5
Nonferrous Metals	75.7
Copper and Copper Alloys	71.5
Fabricated Metal Products	91.6
Structural Parts and Structures	140.9
Hand and Machine Tools	46.1
Organic Chemicals	66.5
Inorganic Chemicals	42.5
Plastic Materials	54.7
Tires	26.3
Paper and Paper Products	92.4
Tableware	84.4
Textile Fibers	41.7
Yarn	52.6
Synthetic Yarn	50.0
Fabrics	53.1
Cotton Fabrics	48.2
Synthetic Fabrics	50.5
Apparel	79.8
Fish and Fish Products	39.5
Total Exports	56.0

Note: The dollar depreciated 44.9 percent against the yen between September 1985 and October 1988 based on the rates the Ministry of Finance used to convert the export figures to dollars.

Source: Calculated from Japan Tariff Association, The Summary Report: Trade of Japan.

While some analysts have concluded from this pricing behavior that Japanese exporters are protecting market share at the expense of profits, that is not the case. Passing through less than 100 percent of the yen's appreciation has been a way of making the best of a bad situation in terms of profits. Furthermore, as Table 4 shows and the above arguments suggest, pass-throughs are usually smaller in highly competitive markets. Finally, after Japanese firms soften up their foreign customers for price rises, pass-throughs may increase. Pass-throughs averaged 51.1 percent between September 1985 and November 1987 but rose to 56.0 percent by October 1988.

Japanese exporters are scarcely happy about the prospect of the lower profits in yen terms implied by a less than 100 percent pass-through. But they have ways of ameliorating the prospect of worsened profitablity. They can:

- Buy foreign products or use labor and land available abroad that are relatively inexpensive as a result of the yen's appreciation. Table 5 shows how three of the largest electric equipment manufacturers -- Toshiba Corp., Mitsubishi Electric Corp. and Hitachi, Ltd. -- are increasing their procurement of inputs and manufactured goods abroad. Obviously the process still has a long way to go despite the previously noted tremendous change in the competitiveness of products manufactured overseas.

Table 5: Overseas Procurement and Total Sales in Japan's Electric Machinery Industry

(in billions of yen)

	FY 1987	FY 1988 (estimated)	FY 1989 (projected)
Hitachi, Ltd.			
Sales	Y2,920	Y3,100	Y3,300
Overseas Procurement	98	128	156
Toshiba Corp.			
Sales	2,683	2,700	2,900
Overseas Procurement	119	125	150
Mitsubishi Electric Corp.			
Sales	1,954	2,000	2,100
Overseas Procurement	84	94	119

Note: Dollar figures on overseas procurement were converted to yen using Y138.33=$1.00 for FY 1987 and Y125=$1.00 for FY 1988 and FY 1989.

Source: Computed from data in Nihon Keizai Shimbun.

In some cases Japanese firms produce for foreign markets in the countries involved; in other cases they manufacture in third countries, such as Korea or Taiwan, for export to Canada and the United States. Most dramatically, some Japanese firms have tried out what has become an old standby for U.S. firms: producing abroad for import into the home market. This phenomenon, however, sometimes has been exaggerated in the news media. While the first measure (producing for the local market abroad) is now fairly widespread, Japanese firms so far have exercised the other options relatively infrequently. The Ministry of International Trade and Industry in May 1988 estimated that, by 1990, imports from the overseas plants of Japanese manufacturing firms will come to $5.1 billion, about 4 percent of 1987 Japanese imports. Further, while figures vary, most estimates are that less than 4 percent of manufacturing activity by Japanese firms is done outside Japan.

To some extent, exporters can save money without altering their production processes at all. For example, falling import prices offset some of the pain of lower export prices if the firm uses imported intermediate goods and raw materials. As noted above, the prices paid for raw materials and energy -- much of it imported -- dropped dramatically between 1985 and late 1988. While the soaring yen deserves much of the credit, other factors -- the most important of which is falling worldwide oil prices -- have also played a role. (For details of the effects of falling materials costs on Japanese exporters, see JEI Report No. 10A, March 11, 1988.) The Economic Planning Agency estimates that, between October 1985 and December 1987, the appreciating yen led to Y18.3 trillion ($146 billion at Y125=$1.00) of cost savings to Japanese firms; falling crude oil prices added another Y11.2 trillion ($89.6 billion). Remarkably, Japanese exporters have gotten a break on the cost side since 1985 in addition to lower priced imports; as Table 1 shows, even wholesale prices of domestically produced goods have fallen.

- Look to alternative markets. As Table 1 suggests, price declines have been less severe domestically than in foreign markets for Japanese manufacturers. Firms in a wide range of industries have become more dependent on the home market as the yen has appreciated (see Table 6). For some individual products, the change is much greater. In 1985 exports accounted for 75 percent of color television production, but by 1987 this figure had dropped to 36.6 percent. Over the same two years, exports of videocassette recorders dropped from 83.3 percent of total output to 70 percent.

Table 6: Exports and Domestic Sales in Selected Japanese Industries

(percent of production exported)

	FY 1985	FY 1986	FY 1987	FY 1988 (estimated)	FY 1989 (projected)
Electronics and Electric Machinery	45.5%	41.2%	40.2%	38.1%	37.5%
Cars	58.7	58.5	50.8	47.9	47.0
Nonelectric Machinery	30.9	31.7	30.8	29.4	29.3
Shipbuilding	67.8	59.4	58.3	75.0	85.1
Steel	32.6	32.5	26.9	24.7	24.6
Petrochemicals	9.9	14.9	13.2	12.2	12.5
Synthetic Fibers	26.6	29.4	25.3	22.9	21.5
Cement	11.5	6.9	5.9	6.5	6.3

Note: In volume terms except electric and nonelectric machinery, which are in yen.

Source: Computed from data provided by the Industrial Bank of Japan, Ltd.

Fortunately for Japanese manufacturers, the domestic market picked up steam in 1987 and 1988 just when they needed it most. Wherever competition was less severe, exporters raised dollar prices enough to cover the variable costs of supplying overseas markets while using the domestic market to cover a higher share of the fixed costs of production. For example, according to Fuji Bank, Ltd., the ratio of sales price to raw materials cost for machinery rose 5 percent in the domestic market, while it dropped about 10 percent in the export market between the third quarter of 1985 and the fourth quarter of 1987. This explanation is consistent with the price patterns evident in Table 1 and with the pass-through rates shown in Table 4.

- Diversify into sectors outside their home industry. Nippon Steel Corp., for example, is building amusement parks in Japan, thus becoming less dependent on the vicissitudes of the currency market. This phenonomen at the level of the individual firm, which often involves manufacturing firms seeking opportunities in service industries, is analogous to the overall growth of nonmanufacturing at the expense of manufacturing shown in Tables 2 and 3.

- Trim real or imagined fat. For example, some firms have redesigned products to use fewer parts, thereby saving money. VCRs now use a single motor to run both drives rather than the dual motors used in earlier models. But this and some of the other examples given in the news media are questionable. VCRs were falling in price prior to the yen's appreciation as the production technology improved. The difference after 1985 could be attributed to a decision not to pass all the ongoing cost savings along in price cuts. The improvement in VCRs is less an example of cutting fat than a continuation of technogical improvement.

More generally, examples of productivity improvements raise a key question: why now? If Japanese firms are as eager to make more money or to increase export sales as the conventional wisdom says, why did they wait until there was a crisis to act? Before 1985 foreign and domestic observers had a hard time finding any fat in Japanese businesses. Its discovery practically coincided with the yen's appreciation. In some markets where firms were earning large profits, cost controls may have lost their grip during the weak yen era. Most Japanese markets, however, are quite competitive, suggesting little fat was there for the trimming. As the VCR example and the following two possibilities suggest, lower costs were not necessarily a result of cutting waste.

- Try to increase adrenaline instead of reducing fat. Kenichi Ohmae of McKinsey & Co. has argued that the yen's appreciation created an opportunity to slash costs. In this view, Japanese firms have manipulated symbols, such as electricity usage, to create the impression among their employees of a crisis and to serve as a motivational devise to spur their workers to greater efforts. The process has extended to supplier firms. Toyota Motor Corp., for example, claims that half its Y160 billion ($1.3 billion) cost savings in the financial year ending June 30, 1987 came from squeezing lower prices out of its subcontractors. However, not all exporters have subcontractor networks as extensive as Toyota's, and some firms with subcontractors may have found them less cooperative than Toyota apparently did.

- Eliminate no longer needed muscle. Weak foreign markets and new domestic competition from importers and rivals at home have forced companies to scale back their operations. Japanese steel firms, like their American counterparts a few years earlier, have shed capacity. These facilities now appear redundant only because of what appeared to be a permanent drop in demand.

For all these reasons, Japanese exporters are now widely believed to be able to operate profitably in the face of a yen much stronger than a few years ago. Usually the measure of this ability is the break-even point, defined as the value of the yen at which a firm's profits become zero. A company can lower the break-even point, say from Y120=$1.00 to Y100=$1.00, by vigorous cost cutting, higher profits on domestic sales, more importing, moving operations overseas away from the influence of the yen or by other means. Break-even points also have fallen as result of healthy overseas economies that enable exporters to raise prices more in foreign currencies and maintain existing sales volumes better than would otherwise be possible.

Table 7 gives Fuji Bank's calculation of how break-even points for Japanese firms have changed since 1985. However, a firm might curtail its exports in the face of a rise in the yen that leaves the firm still above its break-even point. If the Japanese currency, for example, had risen to Y120=$1.00 in March 1988, Japanese car companies still would have been profitable overall, according to Fuji Bank, but export operations could have become unprofitable. Or both domestic and foreign operations could have been making money, but some foreign sales might have been coming at the expense of higher profits. If so, the company could increase profits by scaling back foreign operations, the break-even point notwithstanding. In other words, comparing actual exchange rates with break-even points gives little guidance by itself as to how firms are coping in export markets or whether manufacturers will expand or reduce their export activity. Nor does the steadily falling break-even point mean that Japanese firms will always be able to slay the exchange rate dragon in foreign markets. As much as anything, the fall in the break-even point since at least 1987 reflects rising domestic demand and profits that cover lower earnings on foreign operations. If the domestic economy were to slump, the downward trend of the break-even point would reverse.

Table 7: Break-Even Points in Japanese Industry

	April-September 1985	April-September 1986	April-September 1987	October 1987-March 1988
Nonelectric Machinery	Y204	Y148	Y127	Y101
Electric Machinery	203	148	126	109
Transportation Equipment	216	155	133	118
Precision Instruments	216	155	137	120
Weighted Average	210	152	131	114
Actual Exchange Rate (period average)	245	163	145	132

Source: Fuji Bank, Ltd.

In short, the appreciation of the yen, while reducing the profits of many Japanese exporters and import-competing firms, also created opportunities for manufacturers to exploit the shifting availablity of resources within the Japanese economy. Price stability, partly a consequence of the strong yen, was another benefit. Many of the actions of Japanese firms, including their export pricing policies, were little more than what would be expected of any company in the same situation. With few exceptions, then, the actions taken by Japanese firms should not have come as a surprise but be seen as an expected consequence of trying to make the largest possible profit. Playing an important role in strengthening the ability of firms to cope was the macroeconomic environment, which itself was partly a result of the exchange rate changes and which created new opportunities in the domestic market for exporters.

The Future

Japanese firms deserve credit for an adroit high-wire act, shifting resources from one set of activities to another with little margin of error. The latest performance further embellishes the already considerable postwar reputation of Japanese firms as economic supermen. But high-wire artists sometimes fall and even Superman has his limits. Among the potential hazards that might cause Japanese firms to cope less successfully:

- Most obviously, if another string of yen advances made the Japanese currency much stronger than Y100=$1.00, more firms -- while still making money on their operations worldwide -- would find that they were no longer covering the marginal costs of their exports with what they could charge in their export markets. Exports would decline.

- Cost-cutting clearly has limits. As early as November 1987, for example, an unnamed Mazda Motor Corp. spokesman was quoted as saying, "You cannot keep squeezing water out of a towel that has already dried up. At Mazda, we have exhausted countermeasures against a profit slump."[3]

- Of course, firms might cope with the yen's appreciation by shifting even more production abroad and diversifying still further. As they do so, the fortunes of the company could be uncoupled from that of its employees and the Japanese economy generally. Existing employees could feel redundant or uncomfortable working in the new industries into which their firm diversified. Even if plenty of good jobs remain available in Japan, the skill composition of those jobs may not match those of the workforce, particularly for older people.

- If the yen appreciates again, the domestic demand safety net may not be in place this time around. Most macroeconomic forecasts call for a stable yen over the next year and a half or so and a modest slowdown in domestic growth. If this forecast proves incorrect on both counts -- and the yen soars in the face of a pronounced downturn -- some Japanese firms could be in trouble.

- Importers may start to influence the domestic market more significantly. If the import market share expands substantially because of the yen's past or ongoing appreciation, exporters could find that plunging domestic prices eliminate the home market as a safe haven. Domestic demand no longer would be available to absorb a shift of fixed costs from overseas markets. The profit-maximizing foreign price would not change, so average prices and profits would be lower. In this case, too, corporate and consumer interests would diverge; consumers would benefit from the lower prices, better variety and improved service that more vigorous import competition would bring.

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[3] Quoted in Nobuo Takahashi, "Rise of Yen Full of Pain, but Japanese Firms Promise to Cope", Japan Economic Journal, November 14, 1987.

- Foreign economies, including that of the United States, could weaken. As a result, export prices would soften in foreign currencies, export volumes would suffer and profits would decline.

In short, the events of the past three years provide another chapter in the remarkable story of the Japanese economy, but they do not demonstrate that Japanese firms can cope successfully with any exchange rate under any circumstances. Some economic circumstances could develop to make life difficult for Japanese firms and workers.

On the whole, however, an alternative scenario is more likely. Japanese firms are likely to prosper at home and find ways to minimize the negative impact of the yen's high value on their operations abroad. Since 1985 the result of the yen's appreciation has been more, not less, involvement of Japanese firms in the U.S. economy as one response to exchange rate changes has been to invest in manufacturing capacity in this country. Rival American firms that had hoped exchange rate changes alone would defeat their Japanese competitors have been disappointed and are likely to be disappointed again. But for Americans who buy Japanese products and, increasingly, work for Japanese firms or use Japanese technology, the prospect that Japan-based companies will continue to have an important U.S. presence means that this country will continue to reap many benefits from having such a dynamic economic partner.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

A Two-Part Report: A and B

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Tokyo Expects Continued Strong Economic Growth

In most industrial countries, the news that the government expected 4 percent annual growth in inflation-adjusted gross national product would be greeted with some skepticism; private forecasters would explain that actual growth was likely to be somewhat lower and hint that the government had some ulterior motive in being so optimistic. In the United States, for example, annual growth has reached that level only once this decade. Yet when the government of Japan -- delayed almost a month because of the protracted struggle over tax reform -- came up in mid-January with the 4 percent figure as part of its economic outlook for fiscal 1989, which begins April 1, the reaction was the opposite: several respected private forecasters said they expected real growth to be at least a couple tenths of a percentage point higher.

So apparently did some government officials. The Ministry of International Trade and Industry reportedly held out for a figure of well over 4 percent. However, the Ministry of Finance argued for 3.5 percent, "at the very most," in the reported words of an unnamed high official. In a repeat performance of last year's arbitration between a similarly optimistic MITI and a pessimistic MOF, top government officials more or less split the difference.

The figure translates into a continuation of the trends that have been evident this year, although some will be at a slower pace. Domestic demand is once again expected to lead the way, contributing 4.7 percentage points to overall growth, with net exports again tugging the opposite direction, pulling growth down by 0.7 point. An improvement in external imbalances is anticipated despite the forecast that exports will rise 6.3 percent in yen terms on top of a projected 4.3 percent rise in FY 1988. Imports are expected to keep soaring, even exceeding this fiscal year's estimated 13.5 percent rise in yen terms with a jump of 13.8 percent. With little change in the yen-dollar exchange rate foreseen, these figures translate into a modest reduction in the widely watched current account surplus to a level of $71 billion. If the outlook proves accurate, the current account surplus will drop from 2.7 percent of Japan's GNP to 2.2 percent.

Government's FY 1989 Economic Outlook

(percent change except where noted)

	Actual FY 1987	Estimated FY 1988	Outlook FY 1989
Real Gross National Product	5.2%	4.9%	4.0%
Consumer Spending	4.5	4.9	4.6
Residential Construction	25.6	2.1	-3.3
Private Plant and Equipment Investment	10.0	15.9	9.2
Exchange Rate (yen per dollar)	Y138	Y127	Y123
Current Account Surplus (billions of dollars)	$84.5	$78.0	$71.0
Trade Surplus (billions of dollars)	94.0	93.0	88.0
Wholesale Prices	-2.0	-0.8	0.9
Consumer Prices	0.5	0.7	2.0

Consumer spending is expected to more than pull its own considerable weight in FY 1989. Accounting for more than 50 percent of total demand, consumers alone can give the economy a good year even if other factors tend to go a little awry, as they are expected to do in the coming year. Government analysts think that consumer spending will rise 4.6 percent after adjustment for price changes and contribute a strong 2.5 points to overall economic growth. Plant and equipment spending is expected to increase a real 9.2 percent and contribute 2 points to overall GNP growth, a very good performance unless compared to FY 1988, when it is expected to jump 15.9 percent in real terms. But other components of domestic demand, including residential construction, inventory investment and government spending, are left with a mere 0.2 point contribution to overall growth.

In short, the anticipated strong growth of the Japanese economy in the coming fiscal year is critically dependent on the strengths of consumer spending and plant and equipment investment. Business economists generally buy the government's figures on private consumption, but they disagree among themselves over expectations for real capital spending. In a Japan Economic Journal survey of 20 private-sector forecasts, FY 1989 growth in plant and equipment investment ranged from 5.8 percent (Tokai Bank, Ltd.) to 12.6 percent (Yamaichi Research Institute). This disparity is partly to blame for the wide variation in private-sector forecasts of overall real GNP growth; these run from 3.4 percent (Nippon Credit Bank) to 5 percent (Research Institute of National Economy). On average, this group is slightly more optimistic than the government and forecasts 4.2 percent growth for FY 1989.

The government anticipates slow but steady progress on other goals. The unemployment rate is expected to continue creeping downward to 2.4 percent from FY 1988's estimated 2.5 percent rate. Price increases, even after accounting for the inflationary impact of the new consumption tax, are expected to be only slightly above FY 1988's rises at 2 percent for consumer prices and 0.9 percent for wholesale prices.

In its statement on the outlook, the government cautions that the figures need to be interpreted with some flexibility because of uncertainties inherent in Japan's private-sector economy and in the international environment. The modesty is well-founded. Last year's outlook, in expecting 3.8 percent real growth for FY 1988, underestimated the probable growth rate by more than a percentage point. The forecast of 4 percent real growth for FY 1989 is simultaneously more optimistic than FY 1988's initial outlook and more pessimistic than the 4.9 percent real growth now expected for the April 1988-March 1989 period.

With the Bush administration just getting under way in Washington and the tax system being reformed in Japan, uncertainties now are at least as great as they were a year ago. Furthermore, the currency markets may not be as quiet as they have been in the fiscal year ending March 31. In short, while few outside observers would argue that the government's figures are strongly biased one way or the other, they also realize a lot can -- and usually does -- happen to throw off even the most careful predictions.

Douglas Ostrom

Ministry Of Finance Releases Draft FY 1989 Budget

Suffering from an embarrassment of riches, the Ministry of Finance proposed a central government budget for the fiscal year beginning April 1 that both raises spending and reduces government borrowing. Totaling Y60.4 trillion ($483.3 billion at Y125=$1.00), the proposal represents a 6.6 percent increase in the general account budget over the initial budget for FY 1988, the biggest increase since FY 1981's 9.9 percent hike. Paralleling the case in recent

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Japan's Trade Surplus Dips In 1988 But Worries Mount

Everyone seems to agree that by the mid-1980s Japan's trade surplus had grown too large. So Japan's steady, if slow, progress over the past year or two in reducing the imbalance has been good news on both sides of the Pacific. The latest figures indicate that the trend continued in 1988, with the most widely watched measure -- the dollar-denominated trade surplus -- dropping 2.9 percent for the second annual decrease after peaking at $82.7 billion in 1986 (see Tables). This measure actually understated the improvement because the dollar's ongoing depreciation in 1988 exaggerated the measured increase in both imports and exports, thereby inflating the surplus as well. In yen terms the trade imbalance dropped 14.4 percent, reducing the surplus below 1985's level. As

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measured in volume, imports soared 16.7 precent, easily exceeding the 4.4 percent rise in exports.

If the year's results were reason for encouragement, the quarterly figures were not. In the last two quarters of 1988 the dollar-denominated trade surplus grew over year-earlier levels and, in the October-December period, increased in yen terms as well. While imports by any measure remain remarkably healthy, exports have broken out of their long slumber, up 6.7 percent and 5.8 percent in volume in the two most recent quarters.

Foreign officials, fearing that the famed Japanese export juggernaut is back in business, are reacting warily and reexamining their thinking about the forces that shape international trade. Among their questions: what happened to the supposed power of exchange rate changes to erase large imbalances? While immediate relief was not expected, they say, progress in the three years that have elapsed since the Plaza Accord has been surprisingly modest, particularly since further improvement appears problematic.

One answer: exchange rates obviously matter, and the latest U.S. and Japanese trade figures provide supporting evidence. After a predictable lag, the dollar's depreciation since 1985 has cut both the U.S. deficit and the Japanese surplus, particularly when each is adjusted for currency realignment and price changes. And Japan's bilateral surplus with the United States has improved faster recently than the country's worldwide imbalance, dropping 8.6 percent in dollars and 19.4 percent in yen in 1988.

But exchange rate changes alone cannot do the job. Economic growth counts, too. Last year gross national product in the United States -- Japan's largest trading partner -- grew a real 3.8 percent. Given the traditionally strong relationship between growth in the United States and shipments from Japan, Japanese export sales in this country would have been much stronger in the absence of exchange rate changes. Growth in Japan, and the increased imports that expansion implies, probably would not have offset this surge. In this context, the reduction in the bilateral surplus has to be counted as an accomplishment for which currency realignment deserves much of the credit.

Some Japanese experts make a related argument. In a free market economy like Japan's, officials can, at most, influence Japanese firms and consumers to buy more foreign products. Partly as a response to just such prodding, imports are soaring. But Japanese officials have no leverage over U.S. consumers, who continue to buy imported products in large quantities, higher prices notwithstanding. If anybody can get the message to the American public, it is the U.S. government, which has chosen not to do so. Until Washington cuts the federal budget deficit or takes other actions to rein in demand, Japanese imports will have to bear most of the adjustment burden. This, in turn, implies slow progress on the bilateral and the worldwide Japanese trade surpluses.

Officially, Tokyo believes that the worldwide trade surplus will continue dropping, if not every quarter, at least over longer periods of time. Its recently released economic outlook forecasts that the dollar-denominated trade surplus on a balance of payments basis for the fiscal year beginning April 1 will decline 5.4 percent from FY 1988's projected total (JEI Report No. 4B, January 27, 1989). Other forecasters are much less sanguine. The Long-Term Credit Bank, Ltd. is among the most pessimistic, predicting that the surplus will jump 17.8 percent in FY 1989. But even the bank's forecast shows that import growth on a gross national product basis will exceed export growth, implying that net exports will still be a drag on the Japanese economy.

Japan's Total Trade in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$170,114	15.8%	$136,503	8.0%	$33,611
1985	175,638	3.2	129,539	-5.1	46,099
1986	209,151	19.1	126,408	-2.4	82,743
1987	229,221	9.6	149,515	18.3	79,706
1988 (p)	264,867	15.6	187,475	25.4	77,392
1986: I	45,499	18.2	33,005	1.5	12,494
II	53,166	21.5	31,424	-2.1	21,742
III	54,768	24.7	30,153	-3.5	24,615
IV	55,718	12.6	31,826	-5.5	23,892
1987: I	51,464	13.1	31,977	-3.1	19,487
II	56,931	7.1	36,380	15.8	20,551
III	57,855	5.6	38,346	27.2	19,509
IV	62,972	13.0	42,812	34.5	20,159
1988: I	60,296	17.2	44,499	39.2	15,797
II	65,184	14.5	47,331	30.1	17,853
III	67,188	16.1	47,344	23.5	19,844
IV (p)	72,199	14.7	48,301	12.8	23,898

Japan's Total Trade in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y40,325	15.5%	Y32,321	7.7%	Y8,004
1985	41,956	4.0	31,085	-3.8	10,871
1986	35,290	-15.9	21,551	-30.7	13,739
1987	33,315	-5.6	21,737	0.9	11,578
1988 (p)	33,933	1.9	24,022	10.5	9,911
1986: I	8,674	-12.4	6,334	-24.1	2,339
II	9,119	-17.3	5,399	-33.3	3,720
III	8,632	-18.5	4,758	-36.8	3,874
IV	8,865	-15.1	5,060	-28.9	3,806
1987: I	7,960	-8.2	4,959	-21.7	3,002
II	8,153	-10.6	5,207	-3.6	2,946
III	8,507	-1.5	5,644	18.6	2,864
IV	8,694	-1.9	5,928	17.2	2,767
1988: I	7,715	-3.1	5,687	14.7	2,028
II	8,164	0.1	5,927	13.8	2,237
III	8,927	4.9	6,292	11.5	2,635
IV (p)	9,127	5.0	6,117	3.2	3,010

Japan's Trade with the United States in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$59,937	39.9%	$26,862	9.0%	$33,075
1985	65,278	8.9	25,793	-4.0	39,485
1986	80,456	23.3	29,054	12.6	51,401
1987	83,580	3.9	31,491	8.4	52,090
1988 (p)	89,612	7.2	42,000	33.4	47,613
1986: I	16,696	25.1	6,278	-7.3	10,418
II	20,921	24.3	8,305	25.1	12,616
III	21,280	28.1	7,525	23.1	13,755
IV	21,559	16.7	6,946	10.8	14,613
1987: I	18,001	7.8	6,986	11.3	11,015
II	21,181	1.2	7,592	-8.6	13,589
III	21,628	1.6	8,252	9.7	13,376
IV	22,770	5.6	8,660	24.7	14,110
1988: I	19,859	10.3	10,088	44.4	9,772
II	21,608	2.0	10,451	37.7	11,157
III	23,060	6.6	10,664	29.2	12,396
IV (p)	25,084	10.2	10,797	24.7	14,287

Japan's Trade with the United States in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y14,221	39.7%	Y6,364	8.7%	Y7,858
1985	15,583	9.6	6,213	-2.4	9,369
1986	13,564	-13.0	4,918	-20.9	8,646
1987	12,148	-10.4	4,582	-6.8	7,566
1988 (p)	11,485	-5.5	5,384	17.5	6,101
1986: I	3,191	-6.9	1,203	-30.7	1,988
II	3,589	-15.4	1,421	-15.1	2,168
III	3,355	-16.3	1,190	-19.3	2,165
IV	3,429	-12.1	1,104	-16.9	2,325
1987: I	2,786	-12.7	1,083	-9.9	1,703
II	3,034	-15.5	1,086	-23.6	1,948
III	3,180	-5.2	1,215	2.1	1,965
IV	3,148	-8.2	1,198	8.5	1,950
1988: I	2,541	-8.8	1,290	19.1	1,251
II	2,706	-10.8	1,308	20.5	1,398
III	3,064	-3.6	1,417	16.7	1,647
IV (p)	3,174	0.8	1,368	14.1	1,806

But Washington is not likely to pay much attention to such complicated, if meaningful, statistics, preferring to focus on Japan's dollar-denominated trade surplus, which by all accounts is expected to remain at historically high levels a year from now. Even by the Japanese government's reckoning, the FY 1989 surplus will be the third-largest on record. At least one forecast for the coming year seems safe enough: Japan's plethora of trade statistics will continue to support widely differing views on the direction of its foreign trade.

Douglas Ostrom

Fiscal Review: Revised FY 1988 General Account Budget

Tokyo put the finishing touches on an apparently successful fiscal plan for FY 1988 by approving a large supplemental appropriation to the general account budget. The January 19 action will bring total general account outlays for the year ending March 31, 1989 to just under Y61.9 trillion ($495.2 billion at Y125=$1.00), a 6.2 percent increase over the revised FY 1987 budget.

The supplement was approved later than usual because of the government's lengthy (and ultimately successful) effort to win Diet approval of a controversial tax reform package (see JEI Report No. 1B, January 6, 1989). This delay and the desire to press ahead with compilation of the budget for FY 1989 (see following article) showed up in the hurried supplemental spending calculations first offered by the Ministry of Finance. MOF's initial guideline added up to just over Y4.7 trillion ($37.6 billion). A closer look revealed two factors that enabled the ministry to raise the additional spending program to just under Y5.2 trillion ($41.6 billion): tax revenues are projected to be much larger than expected, as is the budget surplus to be carried over from FY 1987 (see Table). Current predictions put tax revenues in FY 1988 11.6 percent higher than in the April 1987-March 1988 period, well above the initial estimate of 9.5 percent. And the carryover from FY 1987 is 27.1 percent bigger than what was left over from the FY 1986 budget.

Together, these two windfalls will allow MOF to cut issues of deficit-financing bonds by Y1.4 trillion ($11.2 billion) to Y1.8 trillion ($14.4 billion) for the entire fiscal year. This is nearly half of the initial projected borrowing of Y3.2 trillion ($25.6 billion). At the same time, issues of construction bonds will amount to Y6.2 trillion ($49.6 billion), a rise of Y506 billion ($4 billion). Despite this, a net decrease in total bond issues is still visible in the full-year figure. The ratio of total bond issues to total general account spending is expected to drop to 12.9 percent in the revised FY 1988 budget. The decline from the initial 15.6 percent level is due mainly to the lower dependence on deficit-financing bonds, 2.9 percent rather than 5.5 percent.

Although a major portion of the supplementary funds must be transferred to local governments under revenue-sharing rules, outlays for social security, public works and foreign aid will receive a boost. In addition to the Y90 billion ($720 million) directed at increasing trade insurance (mainly for imports from developing countries), a total of Y24.6 billion ($196.8 million) is included (in the "other" entry under miscellaneous outlays) to back Prime Minister Noboru Takeshita's commitments to the United Nation's peacekeeping forces and to support international refugee assistance programs. Money also was set aside to help Japanese farmers adjust to the coming liberalization of beef and

FY 1988 Initial, Supplemental and Revised General Account Budget

(in billions of yen)

Initial FY 1988 (affected categories only)		Supplemental FY 1988		Revised FY 1988
Revenues				
Taxes	Y45,090.0	Taxes	Y3,016.0	Y48,106.0
Non-tax Revenues	1,468.7	Non-tax Revenues	35.5	1,504.2
Bonds	8,841.0	Bonds	-874.0	7,967.0
Construction	5,690.0	Construction	506.0	6,196.0
Deficit Financing	3,151.0	Deficit Financing	-1,380.0	1,771.0
		Carryover from FY 1987	2,974.5	2,974.5
		Expenditures	1,893.7	
		Transfers to Local Governments	1,080.8	
Total	56,699.7	Total	5,152.0	61,851.7
Expenditures				
Transfers to Local Governments	10,905.6	Transfers to Local Governments	2,125.6	13,031.2
		FY 1987 Surplus	1,080.8	
		FY 1988 Natural Increase	1,044.8	
Social Security	10,384.5	Public Welfare Insurance	1,507.8	11,892.3
Public Works	6,082.4	Public Works	598.0	6,680.4
Disaster Relief	65.1	Disaster Relief	418.6	483.7
Housing Development	750.9	Housing & Urban Development Corp.	179.4	930.3
Food Control Programs	448.2	Agricultural Import Liberalization	104.6	552.8
Economic Cooperation	682.2	Trade Insurance	90.0	772.2
Miscellaneous Outlays	3,939.8	Miscellaneous Outlays	-220.9	3,718.9
		Wage Increases	144.4	
		Consumption Tax Introduction	162.5	
		Miscellaneous Reductions	-750.0	
		Other*	222.2*	
		National Debt Redemption	946.9	946.9
Total	56,699.7	Total	5,152.0	61,851.7

*Includes Y24.6 billion for United Nations peacekeeping forces and refugee assistance.

orange imports, and funds were earmarked to ease the introduction of the recently approved 3 percent consumption tax.

The FY 1988 supplemental budget is a whopping 25.3 percent larger than the addition approved for the previous fiscal year. Whether Tokyo will continue to enjoy such good fortune is a matter of debate and concern among policymakers. The poor performance of revenue projections is of particular interest. On the one hand, uncertainties generated by two years of trying to make major changes in Japan's tax system may have confused the outlook. On the other, it appears that estimates of economic and financial market activity were simply too conservative. In either case, Tokyo cannot rely on similar windfalls in future years but is certainly taking full advantage while they last.

Jon Choy

Fiscal Outlook: Initial FY 1989 Budget

A projected boom in tax revenues will allow Tokyo to expand spending 6.6 percent to Y60.4 trillion ($483.3 billion at Y125=$1.00) in the year beginning April 1 while simultaneously reducing deficit financing. The cabinet of Prime Minister Noboru Takeshita approved a 1989 fiscal plan January 24 that differs from a Ministry of Finance draft (see JEI Report No. 4B, January 27, 1989) in two important areas: defense and foreign aid (see articles in this issue). From a macroeconomic standpoint, the cabinet considers the package to be marginally stimulative. Tokyo also is seeking significant tax changes that could spur consumer demand and reduce trade tensions.

Growth in the overall general account budget for FY 1989 is pegged at 6.6 percent, the biggest jump in eight years (see Table 1). Total discretionary spending will rise a smaller 3.3 percent, but this is still nearly three times the increase allowed initially in the current fiscal year. The budget writers' mood is clearly moving away from austerity: only four of the 13 discretionary allotments show zero or negative growth for FY 1989, compared with seven program areas in FY 1988. Although energy measures lead the way with a 14.3 percent surge, this is the category's first increase in several years and still leaves spending well below its FY 1982 level. Outlays for foreign aid show the next greatest percentage increase (6.7 percent), followed by defense (5.9 percent), social security (4.9 percent), miscellaneous expenses (3 percent) and disaster relief (2.5 percent). Unlike previous years, allocations for public works (1.9 percent) and education and science (1.6 percent) show minimal growth. The economy has had some difficulty absorbing the large increase in public works expenditures budgeted in the current fiscal year to the point where officials were concerned about inflation.

Hidden in the overall FY 1989 budget figures are some interesting features:

Public Works - Spending for roads will rise 2 percent to Y2,171.7 billion ($17.4 billion), while outlays for sewer and water systems will climb 2.6 percent to Y823.4 billion ($6.6 billion). Funds for airport and harbor development also will rise 2.1 percent to Y102.2 billion ($817.6 million).

Housing - Money for building new homes will rise to Y841.6 billion ($6.7 billion), a 2 percent increase. The government-owned Housing Loan Corp. will back loans for an estimated 54,500 homes in FY 1989, representing a 1.5 percent increase in commitments.

Social Welfare - A 5.6 percent increase in average annual welfare benefits is planned, while government pensions will rise 6.2 percent. Smaller increases for medical insurance and unemployment compensation are scheduled. A 4.2 percent rise in public health outlays also is projected.

Education - Support for students at public universities will jump 13.2 percent, while those in secondary school will receive a 14.4 percent increase. Subsidies for private institutions will rise 2.7 percent for primary education and 1.3 percent at the college level.

Science - To support Japan's contributions to the international science community, Y2.4 billion ($19.2 million) has been set aside for the Human Frontier Program. The program, initiated by ex-Prime Minister Yasuhiro Nakasone in 1987, is aimed at understanding basic biological functions through cooperative international research.

Transportation - A total of Y6.8 billion ($54.4 million) will be directed toward surveys and construction of three new high-speed rail lines (the famous "bullet" trains, Shinkansen). This is the first appropriation for the three projects, which originally were laid out in a 1973 law. The three extensions will take seven years to complete.

Table 1: Summary of General Account Outlays, FY 1988-FY 1989

(in billions of yen; change from initial FY 1988 budget)

	FY 1988	FY 1989	Change
Discretionary Items			
Social Security	Y10,384.5	Y10,894.7	4.9%
Education and Science	4,858.1	4,937.1	1.6
Pensions	1,879.8	1,855.8	-1.3
Defense	3,700.3	3,919.8	5.9
Economic Cooperation	682.2	727.8	6.7
Public Works	6,017.3	6,130.7	1.9
Disaster Reconstruction	65.1	66.7	2.5
Small Business Measures	195.2	194.2	-0.5
Food Control Programs	448.2	418.2	-6.7
Energy Measures	461.6	527.5	14.3
Other	3,939.8	4,058.1	3.0
Reserves	350.0	350.0	0.0
Total	32,982.1	34,080.5	3.3
Nondiscretionary Items			
Transfers to Local Governments	10,905.6	13,368.8	22.6
Debt Service	11,512.0	11,664.9	1.3
Transfer of NTT Proceeds to Public Works	1,300.0	1,300.0	0.0
Total	23,717.6	26,333.7	11.0
Total	56,699.7	60,414.2	6.6

The reason for this relaxed fiscal stance is clear when the revenue side of the budget is examined (see Table 2). After underestimating tax receipts for several years, the Finance Ministry has penciled in a 13.1 percent increase for

FY 1989. Although the recently passed 3 percent consumption tax is projected to raise some Y3 trillion ($24 billion), MOF expects that booming corporate levies will provide most of the increase. The tax windfall will allow Tokyo to cut borrowing to finance current expenditures by a whopping Y1.8 trillion ($14.6 billion) to just Y1.3 trillion ($10.7 billion). Combined with a nominal Y90 billion ($720 million) increase in construction bonds, borrowing will decline to 11.8 percent of the total budget, well below FY 1988's initial 15.6 percent ratio. Tokyo should have no trouble meeting its FY 1990 deadline to eliminate all new issues of deficit-financing bonds.

Table 2: Summary of General Account Revenue Estimates, FY 1988-FY 1989

(in billions of yen; change from initial FY 1988 budget)

	FY 1988	FY 1989	Change
Tax and Stamp Receipts	Y45,090.0	Y51,010.0	13.1%
Non-tax Receipts	1,468.7	993.2	-32.4
Proceeds from Sale of NTT shares	1,300.0	1,300.0	0.0
Bonds	8,841.0	7,111.0	-19.6
Construction	5,690.0	5,780.0	1.6
Deficit Financing	3,151.0	1,331.0	-57.8
Total	56,699.7	60,414.2	6.6

The Fiscal Investment and Loan Program, a separately financed capital budget, will grow by 9 percent in FY 1989, slightly less than the current year's 9.4 percent initial increase (see Table 3). The plan echoes Tokyo's mixed stance toward increasing public works spending. FILP's public works appropriations feature largesse for general infrastructure (38.9 percent), transportation and communications (5.9 percent) and roads (2.6 percent) but cutbacks

Table 3: Fiscal Investment and Loan Program Outlays, FY 1988-FY 1989

(in billions of yen; change from initial budget of previous year)

	FY 1988		FY 1989	
	Amount	Change	Amount	Change
Housing	Y6,921.5	9.4%	Y7,460.6	7.8%
Public Service Facilities	4,450.9	11.3	4,371.3	-1.8
Welfare	661.8	5.4	736.0	11.2
Education	637.6	-18.7	520.2	-18.4
Small Business	4,030.6	1.1	4,176.4	3.6
Agriculture	979.4	7.9	924.4	-5.6
Land Conservation and Disaster Reconstruction	409.8	-16.9	357.9	-12.7
Roads	2,512.1	6.3	2,576.8	2.6
Transportation and Communications	2,229.9	1.5	2,361.6	5.9
Regional Development	652.2	-0.8	676.6	3.7
Industry and Technology	687.2	8.9	758.7	10.4
Trade Promotion and Economic Cooperation	1,171.0	69.6	1,420.0	21.3
Capital Utilization	4,270.0	27.6	5,930.0	38.9
Total	29,614.0	9.4	32,270.5	9.0

in land conservation and disaster relief (-12.7 percent) and public service facilities (-1.8 percent). The FILP budget clearly continues to make up for deficiencies in the general account budget. Strong gains are planned for industry and technology development (10.4 percent), social welfare (11.2 percent) and housing (7.8 percent). One area where both spending plans agree is foreign aid: trade promotion and economic cooperation will grow by 21.3 percent.

In terms of FILP fund sources (see Table 4), it is clear that the role of the general account (through transfers via the Industrial Investment Special Account) continues to shrink. Reliance on funds collected through the postal savings system eventually will come into conflict with Japan's efforts to liberalize its financial markets. Reform or restructuring of the postal savings system must go hand in hand with further financial liberalization, raising questions about long-term FILP funding.

Table 4: Fiscal Investment and Loan Program Sources, FY 1988-FY 1989

(in billions of yen; change from initial budget of previous year)

	FY 1988		FY 1989	
	Amount	Change	Amount	Change
Industrial Investment Special Account	Y91.2	-36.8%	Y85.2	-6.6%
Trust Fund Bureau	26,206.6	6.5	26,871.3	2.5
Postal Savings	7,900.0	0.0	8,500.0	7.6
Pension Contributions	3,500.0	-21.3	4,310.0	23.1
Other Revenues	14,806.6	20.9	14,061.3	-5.0
Postal Life Insurance Fund	4,409.4	11.9	5,614.0	27.3
Government-Guaranteed Bonds and Borrowings	2,406.8	2.8	2,000.0	-16.9
Total	33,114.0	6.5	34,570.5	4.4

The degree to which Tokyo can "have its cake and eat it too" by reducing the general account deficit while raising spending is apparent when MOF's proposed budget and the cabinet-approved version are compared (see Table 5). While MOF held to the practice of staying within the total amount initially proposed, a block of unallocated funds was included in its proposal from the start. In previous years funds from other categories were shifted to boost defense and foreign aid outlays. In this budget every category except miscellaneous expenses was increased or held steady in the cabinet-approved version. This embarrassment of riches has generated calls for tax changes from the government and the ruling Liberal Democratic Party despite the exhausting tax reform battle that was just ended.

The LDP and the government Tax Research Councils have proposed tax reductions worth an estimated Y290.6 billion ($2.3 billion) for FY 1989. Many are aimed at reducing the impact of the 3 percent consumption tax on lower income families and include: increasing deductions for elderly dependents (Y910,000 or $7,280 a year versus the current Y720,000 or $5,760), raising the amount of tax-exempt income for fatherless families by Y120,000 ($960) to Y350,000 ($2,800), and allowing bigger deductions for commuting expenses (Y50,000 or $400 a month versus the current Y26,000 or $208). Some energy and utility taxes also may be reduced. Of particular interest to consumers and foreign automotive makers is a proposal to cut the local taxes on cars with engines displacing 2,000 cc or more. The changes could translate into tax reductions of up to 45 percent and could add fuel to the boom in luxury car sales.

Table 5: Comparison of Proposed and Approved FY 1989 Discretionary Outlays

(in billions of yen)

	Proposed	Approved
Social Security	Y10,847.8	Y10,894.7
Education and Science	4,862.8	4,937.1
Pensions	1,828.2	1,855.8
Defense	3,892.7	3,919.8
Economic Cooperation	718.8	727.8
Public Works	6,130.7	6,130.7
Disaster Reconstruction	66.7	66.7
Small Business Measures	189.8	194.2
Food Control Programs	415.3	418.2
Energy Measures	523.4	527.5
Other	4,174.2	4,058.1
Reserves	350.0	350.0
Unallocated Expenses	80.0	--

Tokyo intends to make up for some of these reductions by squeezing large corporations. Companies with incomes of over Y1 billion ($8 million) could face a 1 percent increase in marginal corporate tax rates. Measures involving tax-free reserves and accounting for overseas operations also are being examined.

Some tax changes are directed at goals other than revenue production. To promote new public parks and facilities, one proposal would raise the maximum tax-exempt value of land transferred from private to public ownership from Y30 million ($240,000) to Y50 million ($400,000). In an effort to dissuade exports, the reserve for overseas market development by small enterprises may be scaled back. Companies with a capital of Y100 million to Y500 million ($800,000 to $4 million) currently can set aside 0.176 percent of the export value of goods purchased from others and 0.244 percent of all other transactions as a tax-free reserve. (Firms capitalized at less than Y100 million have more generous rates of 1.04 percent and 1.41 percent, respectively.) These rates could be reduced to 0.16 percent and 0.22 percent, respectively (1 percent and 1.3 percent for smaller firms). Taxes on imports of crude oil also face reduction from Y530 ($4.24) per kiloliter to Y350 ($2.80) per kiloliter, while those on heavy fuel oil will be increased by 70 percent to 123 percent.

The cabinet hopes to submit the approved spending plans to the Diet between February 8 and 10. Although there is some opposition resistance to the boost in defense spending (the increase keeps this category above 1 percent of projected gross national product), the budget is likely to win Diet approval without much difficulty. The government's tax plan also stands a good chance of sailing through the Diet with ease if it does indeed focus on addressing adverse consequences of last year's tax system overhaul.

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U.S.-JAPAN COMPETITION IN TELEPHONE EQUIPMENT

Summary

Two recent developments have refocused the transpacific spotlight on U.S.-Japan competition in telephone equipment, a high-profile trade issue in the mid-1980s. In late December American Telephone and Telegraph Co., in a fresh display of the aggressiveness it has shown since the breakup of the Bell System five years ago, accused the Japanese competition of selling small business telephone systems in this country for considerably less than at home. A month later Washington insiders revealed that Japan was not an immediate candidate for possible sanctions under the 1988 trade act for its limited purchases of telecommunications equipment from the United States, even though the law's tough provisions to improve foreign market access for American suppliers of these products were targeted implicitly at Japan.

There is a big gap in the U.S.-Japan trade statistics for telephone equipment and in the corresponding market share figures, but these numbers give just a partial picture of the competitive position of the two industries in each other's backyard. Japanese manufacturers are also-rans in the slow-growing U.S. markets for telephone company switches and large business systems, boxed in by AT&T, Northern Telecom Inc. and a few other entrenched players. Moreover, they are losing sales in the huge but flat American market for small office systems to lower-cost Korean and Taiwanese rivals. At the same time, deregulation of the telecommunications business in Japan and the realignment of the yen-dollar exchange rate are helping U.S. equipment makers enlarge their toehold in the Japanese market.

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The Boom That Wasn't

Telecommunications industry analysts, manufacturers and vendors surveying the U.S. telephone equipment market in 1984 all came to the same conclusion: the market, whether for central office switches or customer premises (terminal) equipment, was primed to take off. The January 1983 deregulation of American Telephone and Telegraph Co.'s new CPE business practically guaranteed strong growth, they reasoned, since it offered the fast-expanding number of AT&T rivals added opportunities to replace the industry giant's huge installed base of office and home telephone equipment. What made robust growth a certainty in this market reading was the January 1984 breakup of AT&T. Divestiture raised the prospects of the Bell System operating companies becoming major marketing outlets for non-AT&T business telephone systems and residential phones as well as bigger buyers of central office equipment from non-AT&T sources.

Deregulation and divestiture were not the only things the market had going for it, according to 1984's conventional wisdom. There also was pent-up demand. The recession of the early 1980s and high interest rates had forced the 22 Bell System operating companies and the 1,500 or so independent operating companies to cut back their budgets for central office switches and had put a damper on corporate orders for private branch exchanges (office switchboards that provide pooled access to groups of external lines from a combination of single-line and multiline telephone sets) and key telephone systems (multiline telephones that allow pushbutton selection of a specific line from a number of central office lines). Moreover, analysts and suppliers expected technology to drive the market as telephone companies replaced their analog switches with digital equipment to improve performance, reduce costs and provide new or enhanced customer services and as businesses installed digital PBXs with their simultaneous voice/data transmission capabilities.

Five years later corporate planners and industry trackers readily acknowledge that their projections were way off target. What was supposed to be a boom amounted to nothing more than a pickup in business in 1984 and 1985, followed by a return to slow or no growth. This misreading of market forces has no single, all-purpose explanation. But at least for central office switches, the reason for the downturn in shipments in the late 1980s is straightforward: telephone companies, which planned to replace 90 percent of their local and long-distance analog switches with digital systems by the end of the 1980s, had completed the bulk of the conversion by 1986.

The reasons office equipment shipments have not matched projections are more complex. One obvious factor is the product replacement cycle. Sales and leases of both key systems and PBXs were fairly strong in the late 1970s and the first half of the 1980s as small businesses replaced their AT&T-made 1A2 electromechanical key systems with electronic systems and large companies moved up from analog PBXs to digital products. Whether they took delivery of small systems or big ones, most businesses acquired equipment that had more capacity and features than they needed in the short run. That gave expanding companies the flexibility to upgrade their systems through add-on products or software

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changes rather than replace them -- a clear plus for users but an equally apparent drawback for PBX and key system suppliers trying to generate sales in the second half of the 1980s.

Shipments also have been hamstrung to some extent by a mismatch between what firms with old equipment need in a phone system and the products on the market. Companies employing 10 or fewer people make up a big part of the customer pool. They are looking for low-cost, no-frills, small-configuration key systems, yet many of the models made by American and Japanese suppliers do not fit these requirements. In the end, therefore, a significant number of potential customers decide to keep their 1A2 key systems or the first upgrades of this equipment, AT&T's ComKey 416 or similar basic products manufactured years ago by GTE Corp. and ITT Corp.

The same problem exists in the PBX market. For many midsized and large businesses, perhaps a majority, the heavily touted high-speed data transmission capabilities of digital PBXs still are of little immediate interest. Their primary requirement is voice communications, which can be handled by existing analog switches. At the same time, competitive alternatives to digital PBXs are available for those companies sending and receiving large volumes of data. In addition, digital switches, billed by manufacturers as the hub of the automated office of the future, have lost some of their luster because of repeated delays in implementing ISDN (integrated services digital network) -- a network that, at least on paper, will combine the transmission of voice, data, graphics and images.

In hindsight it is easy to see how suppliers and analysts caught up with deregulation and divestiture missed these looming constraints. What no one could have anticipated, however, was the resurgence of Centrex -- shorthand for telecommunications services provided to business customers by telephone companies through their local central office switches -- as an alternative to PBXs and key systems. Ignored by AT&T in the years before divestiture, Centrex had lost considerable ground to increasingly feature-laden CPE. However, the seven regional Bell holding companies, which kept the installed Centrex base after the breakup, saw the chance to turn this service into a growing source of revenue by providing the same advanced functions offered by PBXs and key systems and making it price competitive with purchased or leased equipment. This strategy is paying off for the phone companies, but their gain has come at the expense of manufacturers.

AT&T Defies Rivals

AT&T's rivals and industry analysts proved to be no better judges of how AT&T would fare in a deregulated market than they were sales forecasters. Despite some mistakes along the way, AT&T has turned out to be a stronger competitor than most people anticipated. It has shortened its previously long product development cycle so that new equipment and enhancements to existing models are arriving on the market closer to the introduction of competing products. The company also has managed to bring production costs in line with the competition's; demonstrated a willingness to cut prices to generate business; learned how to market through multiple distribution channels; and capitalized on its reputation for fast service and maintenance. As a result, the drop in AT&T's market share, expected to be steep and across-the-board, went no farther in central office switches and PBXs than a limited loss in 1984.

Although five years behind archrival Northern Telecom Inc. in installing its first digital central office switch, AT&T quickly regained the network switch market share it had lost in the first part of the 1980s and now tops the subsidiary of Canada's Northern Telecom Ltd. in the number of lines shipped each year. Of course, the market leader has several things going for it, including close ties with the Bell operating companies, still the primary customers for this sophisticated technology, and the resources to fund the tremendous costs of hardware development and adequate production capacity. But these pluses do not translate into marketing advantages if the company is unable to meet constant BOC demands for new software-intensive features at attractive prices -- a new AT&T strength.

AT&T has fought back as well in PBXs. In the late 1970s rivals -- including Northern Telecom, Rolm Corp., Mitel Corp., GTE, NEC Corp. and Fujitsu, Ltd. -- mounted a successful attack on AT&T's then dominant market position, in part by offering business customers digital systems when the leader's only PBX was an analog product. The competition also was an unintended beneficiary of AT&T's 1979 migration strategy, designed to induce the huge number of users of its electromechanical PBX equipment to trade up to the analog Dimension by hiking lease rates on the old products.

The low point for AT&T came in 1984 when Northern Telecom shipped more PBX lines than it did, but that also was the turning point for the company. Armed with the new midrange System 75 digital PBX and the previously introduced System 85 digital PBX for large installations, AT&T went on the offensive, cutting list prices to prevent additional erosion in its installed base and to win new customers. That tactic shored up AT&T's share in the middle and the high end of the PBX market. A similar strategy, designed around the System 25 digital model unveiled in mid-1986, produced the same results at the low end.

AT&T built on this foundation when PBX market growth slowed to a crawl in the second half of the 1980s by adopting even more aggressive pricing policies, particularly for key corporate accounts. By then the company was back in first place. Maintaining that position, though, has been expensive -- not just for AT&T but also for other PBX suppliers. Profit margins in the last two years have been paper-thin at best and generally nonexistent as everyone has cut prices in the scramble for what little replacement business there is.

If AT&T has stumbled anywhere in the postderegulation, postdivestiture period, it is in the key systems business. But more was at risk here, given the massive size of the market -- roughly 4 million units in use in 1984 -- and AT&T's 60 percent share of the installed base. Then, too, the conditions of competition were even stiffer in key systems than in PBXs and network switches. For starters, there were more rivals, from established players like ITT, TIE Communications Inc. (handling equipment made by Nitsuko Corp.), Toshiba Corp., Iwatsu Electric Co., Ltd. and NEC to a host of newcomers, domestic as well as foreign, lured into the business by what they thought was a market up for grabs. Equally important, shipment growth was flattening quickly after the fairly strong gains of the previous seven years.

AT&T has done remarkably well in key systems, all things considered. The company still is the market leader, although, admittedly, its share of annual shipments, already declining in the growth years, has continued to slip. AT&T again was later than its rivals in bringing new products and enhancements to the market, but the Merlin family of analog key systems -- introduced in late 1983 and expanded in the spring of 1987 with the addition of a new low-end model and the digital Merlin II -- and the Spirit analog key system, also announced in April 1987, have helped the firm retain most of its customers. What has made the biggest difference in the highly price-sensitive key systems market, however, is AT&T's willingness to play pricing hardball to win business -- even when that means miserable margins.

AT&T's unexpected success in maintaining the top position in central office switches, PBXs and key systems is not the only source of frustration for suppliers convinced that deregulation and divestiture would provide their big market break. They also have been surprised by the staying power of AT&T's main competitors. AT&T and Northern Telecom have locked up most of the market for network switches, forcing Stromberg-Carlson Corp. (now a unit of Britain's GEC Plessey Telecommunications Ltd.), Siemens AG of West Germany, LM Ericsson of Sweden and NEC to fight it out for third place. In PBXs the scorecard reads the same way it did in the early 1980s -- AT&T, Northern Telecom, Rolm, Mitel and NEC. Moreover, their combined 75 percent or so market share has varied little over the years. And while the order has changed, the lineup in key systems still is much the same, including ITT, TIE, Toshiba and Iwatsu plus AT&T.

Perhaps the biggest surprise of all is the failure of Japanese manufacturers to make substantial market inroads. Many analysts had pegged the Japanese competition as the main beneficiary of deregulation and divestiture. After all, NEC, Fujitsu, Hitachi, Ltd. and Oki Electric Industry Co., Ltd. bring to the telephone equipment business their related expertise in computers and semiconductors. They have extensive research and production experience in telecommunications equipment as the dominant suppliers to Nippon Telegraph and Telephone Corp. Moreover, these four firms and companies like Toshiba, Nitsuko and Iwatsu had long-established U.S. distribution channels, state-of-the-art products on the market, a record of introducing enhancements and a reputation for aggressive pricing.

Despite these considerable strengths, Japanese suppliers are also-rans in the American CPE business and a negligible factor in network switches. Their efforts to build share in office systems, modestly successful in the up market of the late 1970s and the first half of the 1980s, stalled in 1986 with the onset of slow-growing or flat demand and the yen's rapid appreciation. Since then Japanese makers have been kept on the defensive. NEC, first among the Japanese companies competing in the U.S. PBX market, never accounted for more than 10 percent of annual shipments. Now its PBX market share is estimated to be one or two points lower; rivals Fujitsu and Hitachi are stuck in the low single-digit range. In key systems, where Japanese competitors collectively have a larger market stake, Toshiba, Nitsuko, Iwatsu and other suppliers are under attack from lower-cost Korean and Taiwanese manufacturers.

Shakeout in the Market?

The rampant price-cutting in the business systems market and the limited opportunities for third-tier makers of central office switches have revived talk of a shakeout. Industry observers and manufacturers alike had warned in the early 1980s that the marketplace could not and would not support the expanding list of PBX and key systems suppliers or the 10 contenders in network switches. Companies like TRW Inc., Rockwell International Corp., General Dynamics Corp. and Datapoint Corp., which had moved into the CPE business from other fields, did drop out in 1983, but the major retrenchment everyone then expected never materialized.

It could now -- although the shakeout might not follow the script prepared by analysts. Instead of the predicted mass exodus of latecomers, the market's victims could include more veterans like ITT and GTE. In February 1986 ITT pulled out of the U.S. central office switch market, and at the end of that year the firm merged its worldwide telecommunications activities with those of France's Compagnie Generale d'Electricite. For its part, GTE, once a full-line manufacturer, completed its exit from the telephone equipment industry late last year. The inventor of the automated telephone switchboard transferred its network switch operations to a new company formed by it and century-long nemesis AT&T. This move was preceded by the March 1987 sale of an 80 percent stake in GTE's PBX business to Fujitsu and the Japanese company's buyout of its partner in September 1988.

The transaction that perhaps best captures the turmoil in the telephone equipment market is International Business Machines Corp.'s pending spin-off of Rolm, the longtime number-three player in PBXs. In mid-December the computer giant agreed to sell Rolm's development and manufacturing operations to Siemens and to form an equally owned joint venture with the West German company to market the Rolm line, which has lost money ever since IBM took it over in late 1984. If a heavyweight like IBM cannot survive the market's pressures, analysts wondered, who can?

To improve the odds, major competitors are restructuring. In December Northern Telecom announced a corporate downsizing plan for its North American operations that will cost as much as $200 million. Earlier in the year the company had laid off people at its American central office switch plant and started consolidating U.S. production of its PBXs. Similarly, Mitel, the market leader in low-end PBXs, closed its domestic PBX plant in March 1988 and reduced its North American workforce. AT&T has gone through the same process over the last five years, transferring production of telephone units to the Far East, consolidating U.S. output of office systems and network switches and cutting domestic manufacturing employment. Now the industry leader is threatening to take restructuring one step farther. It says it will be forced to exit part or all of the $4 billion U.S. market for key systems and low-end PBXs if Asian competitors "continue to flood the market with unfairly priced products."

AT&T calculates that manufacturers in Japan, Korea and Taiwan boosted their combined share of the American market for small office systems -- equipment like its Merlin and Spirit key systems and the System 25 PBX -- from roughly 40 percent in 1985 to more than 55 percent in 1988's first half. These gains, the company charged in a complaint filed with the government at the end of last year, were the direct result of a simple sales strategy: dumping. Japanese suppliers allegedly added two points to their 1985 tally of 36 percent by selling small systems here for 80 percent less on average in the April-June 1988 period than they charged at home. The dumping margins on products from Korea were not as huge, averaging about 50 percent, but the supposedly unfair pricing practices of Korean producers yielded bigger dividends. In the space of just three-and-a-half years, AT&T estimated, the Koreans turned a 3.7 percent market stake into a 16.4 percent holding.

AT&T's attempt to blame foreign rivals for its slipping leadership position in small office systems is dismissed by spokesmen for the eight Japanese manufacturers named in the dumping petition (see JEI Report No. 1B, January 6, 1989). They maintain that changing market conditions are the cause of the American industry's general business difficulties. AT&T's specific problems in key systems and PBXs, corporate executives add, are self-inflicted, the result of delayed product introductions and marketing errors. In any case, it is argued, suppliers in Japan are not a threat to American makers because the strong yen is curtailing U.S. imports of Japanese-made small business equipment.

Already concerned about their sales prospects in the American market, Japan's telephone equipment manufacturers worry that Washington could deliver a one-two trade punch. By February 22 U.S. Trade Representative Carla Hills must tell the president and the Congress what countries have been targeted for negotiations to improve market opportunities for American suppliers of telecommunications equipment and services and for sanctions if these discussions fail. Her predecessor, Clayton Yeutter, completed the necessary background investigation of foreign telecommunications trade barriers before he left office, reportedly singling out the European Community and South Korea as the best candidates for market access talks. Word of these choices was greeted with a sigh of relief in Japan but frustration on Capitol Hill and in some U.S. business circles since Japan was the primary target of the tough telecommunications provisions of the 1988 Omnibus Trade and Competitiveness Act.

Whatever angry congressmen and American corporate executives might say, the apparent omission of Japan was understandable from the Reagan administration's perspective since it had invested a considerable amount of political capital in 1985 to make sure that Japan's newly deregulated domestic telecommunications market would be completely open to foreign competitors. Telecommunications equipment and services were the centerpiece of the year-long market-oriented, sector-selective talks, the awkward name for the White House's in-depth negotiating approach to sectoral access problems in Japan. Although often acrimonious, these discussions produced results. U.S. trade policymakers, in fact, admitted that the telecommunications talks had succeeded beyond all expectations. Japan also has received generally high marks from government officials for implementing its pledges. Moreover, U.S. exports of telecommunications equipment to Japan, while not as large as officials in either Tokyo or Washington would like to see, are expanding -- and expanding in real terms.

Despite what Washington sources say the new Bush administration is going to do on telecommunications market access reciprocity, Japan is not completely off the hook. USTR Hills still could add its name to the list of countries targeted for priority negotiations. In addition, the White House has the leeway to retaliate against Japan at some point if there is evidence that Tokyo is not living up to its MOSS commitments. For the moment, though, the odds of a double blow to Japanese telecommunications equipment makers on trade appear slim.

For further information, contact Susan MacKnight.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Table 1: U.S. Market for Telephone Terminal and Switching Equipment, 1983-87

(in thousands of dollars)

	1983	1984	1985	1986	1987
Total Shipments	$8,321,641	$10,813,180	$12,242,262	$10,828,138	$11,511,556
Total Exports	670,879	643,489	713,820	716,893	799,200
Total Imports	1,501,787	1,953,655	2,355,197	2,371,402	2,632,814
Trade Balance	-830,908	-1,310,166	-1,641,377	-1,654,509	-1,833,614
Exports to Japan	14,681	22,614	38,889	72,250	62,465
Imports from Japan	483,298	901,911	927,523	917,118	855,792
Trade Balance	-468,617	-879,297	-888,634	-844,868	-793,327
Apparent Supply	9,152,549	12,123,346	13,883,639	12,482,647	13,345,170
Total Exports as Percent of Shipments	8.1%	6.0%	5.8%	6.6%	6.9%
Exports to Japan as Percent of Shipments	0.2%	0.2%	0.3%	0.7%	0.5%
Total Imports as Percent of Apparent Supply	16.4%	16.1%	17.0%	19.0%	19.7%
Imports from Japan as Percent of Apparent Supply	5.3%	7.4%	6.7%	7.3%	6.4%

Source: Derived from following tables.

Table 2: U.S. Shipments of Telephone Terminal and Switching Equipment, 1983-87

(in thousands of dollars)

	1983	1984	1985	1986	1987(p)
Telephone Switching and Switchboard Equipment	$4,650,697	$5,871,213	$7,714,302	$7,180,020	$7,480,541
Private Branch Exchange Equipment	1,050,100	1,603,703	1,720,804	855,911	1,221,964
Central Office Switching Equipment	2,218,543	2,856,934	4,332,824	4,472,250	4,442,464
Local Switching	1,872,374	2,459,164	3,687,686	3,715,251	3,933,960
Toll Switching	346,169	397,770	645,138	756,999	508,504
Other Telephone Switching and Switchboard Equipment and Parts*	1,382,054	1,410,576	1,660,674	1,851,859	1,816,113
Telephone Sets	831,153	846,663	1,218,575	790,577	1,003,053
Touch Tone	376,195	581,263	983,941	293,799	398,156
Rotary	126,650	57,835	40,930	19,049	11,386
Cordless and Other (call directors, key sets and special purpose)	328,308	207,565	193,704	477,729	593,511
Telephone Answering Devices and Telephone Key Systems]				541,616	571,630
Other Telephone and Telegraph Equipment (excl. carrier line equipment, modems and voice frequency equipment) and Parts*]	2,839,791	4,095,304	3,309,385	2,315,925	2,456,332
Total Shipments	8,321,641	10,813,180	12,242,262	10,828,138	11,511,556

*Excludes parts in 1983 and 1984.

Source: U.S. Department of Commerce, Bureau of the Census, Current Industrial Reports: Selected Electronic and Associated Products, Including Telephone and Telegraph Apparatus (MA 36N) for 1983 and Communication Equipment, Including Telephone, Telegraph and Other Electronic Systems and Equipment (MA 36P) for 1984-87.

A

Table 3A: Total U.S. Exports of Telephone Terminal and Switching Equipment, 1983-88

(in thousands of dollars, f.a.s. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988
Telephone Switching and Switchboard Equipment and Parts	$439,907	$399,234	$362,673	$394,342	$411,677	$313,062	$449,017
Telephone Instruments	27,714	36,996	37,322	37,543	65,873	45,820	110,146
Other Telephone Apparatus and Instruments and Parts	203,258	207,259	313,825	285,008	321,650	243,504	375,822
Total Exports	670,879	643,489	713,820	716,893	799,200	602,387	934,985

Table 3B: U.S. Exports of Telephone Terminal and Switching Equipment to Japan, 1983-88

(in thousands of dollars, f.a.s. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988
Telephone Switching and Switchboard Equipment and Parts	$4,474	$7,764	$15,132	$45,433	$35,178	$17,980	$45,873
Telephone Instruments	835	3,396	4,363	2,338	8,662	6,479	6,415
Other Telephone Apparatus and Instruments and Parts	9,372	11,454	19,394	24,479	18,625	14,996	14,040
Exports to Japan	14,681	22,614	38,889	72,250	62,465	39,455	66,327

Source: U.S. Department of Commerce, Bureau of the Census, U.S. Exports: Schedule E Commodity by Country (FT 410).

B

Table 4A: Total U.S. Imports of Telephone Terminal and Switching Equipment, 1983-88

(in thousands of dollars, Customs value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988
Telephone Switching and Switchboard Equipment	$276,089	$554,002	$518,931	$401,356	$416,230	$344,704	$357,613
Key Telephone Switching Apparatus	276,089	554,002	518,931	79,597	76,838	62,047	64,526
Other Telephone Switching Apparatus				54,963	41,307	35,571	23,731
Parts of Telephone Switching Apparatus				266,796	298,085	247,086	269,356
Telephone Sets	783,865	742,379	649,891	1,154,262	1,301,199	1,079,565	1,042,520
Standard Single-Line Telephone Sets	415,058	485,778	483,901	205,847	142,179	119,002	106,266
Single-Line Telephone Sets with Special Features				348,107	435,495	369,366	362,403
Multiline Telephone Sets				209,415	233,724	191,889	171,061
Parts of Telephone Sets and Instruments				169,069	138,529	112,021	90,107
Cordless Telephone Sets	368,807	256,601	165,990	221,824	351,272	287,287	312,683
Answering Machines and Parts	112,545	180,363	194,003	272,662	277,446	225,357	299,257
Intercom Systems	6,571	7,325	10,639	8,726	13,077	11,254	6,424
Other Telephone Terminal Equipment	322,717	469,586	345,099	67,326	110,597	88,414	136,224
Parts of Other Telephone Terminal Equipment				145,292	106,243	94,275	58,061
Other Telephone Apparatus and Parts			318,317	321,778	408,022	338,943	469,461
Total Imports	1,501,787	1,953,655	2,355,197	2,371,402	2,632,814	2,182,512	2,369,560

Table 4B: U.S. Imports of Telephone Terminal and Switching Equipment from Japan, 1983-88

(in thousands of dollars, Customs value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988
Telephone Switching and Switchboard Equipment	$145,437	$317,337	$201,942	$160,567	$121,804	$112,240	$73,421
Key Telephone Switching Apparatus	145,437	317,337	201,942	36,516	21,853	19,729	16,305
Other Telephone Switching Apparatus				24,399	21,152	19,746	10,708
Parts of Telephone Switching Apparatus				99,652	78,799	72,765	46,408
Telephone Sets	184,568	242,886	209,273	401,594	395,077	328,403	277,662
Standard Single-Line Telephone Sets	110,137	182,271	172,386	36,628	16,718	13,476	2,259
Single-Line Telephone Sets with Special Features				86,004	101,752	87,168	88,788
Multiline Telephone Sets				98,325	102,657	88,785	59,110
Parts of Telephone Sets and Instruments				140,699	111,353	89,469	64,065
Cordless Telephone Sets	74,431	60,615	36,887	39,938	62,597	49,505	63,440
Answering Machines and Parts	68,529	116,891	95,274	118,045	81,339	66,740	55,900
Intercom Systems	2,982	3,224	4,832	4,458	6,796	6,398	1,613
Other Telephone Terminal Equipment	81,782	221,573	230,354	29,376	52,679	47,609	52,820
Parts of Other Telephone Terminal Equipment				89,609	54,832	50,921	16,016
Other Telephone Apparatus and Parts			185,848	113,469	143,265	129,441	116,377
Imports from Japan	483,298	901,911	927,523	917,118	855,792	741,752	593,809

Source: U.S. Department of Commerce, Bureau of the Census, U.S. Imports for Consumption and General Imports (FT 246).

C

Table 5: Japan's Market for Telephone Terminal and Switching Equipment, 1983-87*

(in thousands of dollars)

	1983	1984	1985	1986	1987
Total Production	$2,315,637	$2,748,531	$2,779,484	$4,020,164	$4,862,493
Total Exports	539,557	624,172	562,441	705,462	764,234
Total Imports	14,694	18,882	28,115	38,826	84,391
Trade Balance	524,863	605,290	534,326	666,636	679,843
Exports to the United States	212,672	365,790	260,791	296,049	292,000
Imports from the United States	6,485	11,299	16,665	17,911	38,836
Trade Balance	206,187	354,491	244,126	278,138	253,164
Apparent Supply	1,790,774	2,143,241	2,245,158	3,353,528	4,182,650
Total Exports as Percent of Production	23.3%	22.7%	20.2%	17.5%	15.7%
Exports to the United States as Percent of Production	9.2%	13.3%	9.4%	7.4%	6.0%
Total Imports as Percent of Apparent Supply	0.8%	0.9%	1.3%	1.2%	2.0%
Imports from the United States as Percent of Apparent Supply	0.4%	0.5%	0.7%	0.5%	0.9%

*Excludes parts.

Source: Derived from following tables.

Table 6: Japan's Production of Telephone Terminal and Switching Equipment, 1983-87*

(in thousands of dollars**)

	1983	1984	1985	1986	1987
Telephone Switching and Switchboard Equipment	$1,087,116	$1,170,596	$1,245,141	$1,938 043	$2,713,717
Central Office Switching Equipment]	792,607	912,277	732,816	1,072,116	1,662,963
Private Branch Exchange Equipment]			345,221	605,798	716,503
Other Telephone Switching and Switchboard Equipment	294,510	258,319	167,104	260,129	334,251
Telephone Sets	235,220	305,418	420,479	605,305	769,324
Standard Single-Line Telephone Sets]	235,220	305,418	214,123	226,792	219,932
Single-Line Telephone Sets with Special Features]			99,128	172,164	272,781
Other Telephone Sets]			107,231	206,349	276,604
Key Telephone Systems	770,161	973,817	858,351	1,081,243	955,351
Answering Machines	46,579	82,305	88,006	189,770	189,111
Other Telephone Attachments	82,708	122,377	56,104	70,069	88,738
Intercom Systems	52,162	49,646	52,834	69,915	75,705
Other Telephone Equipment	41,691	44,371	58,569	65,820	70,548
Total Production	2,315,637	2,748,531	2,779,484	4,020,164	4,862,493

*Excludes parts.

**The following average annual exchange rates were used to convert the yen production figures: 1983, Y237.51; 1984, Y237.52; 1985, Y238.54; 1986, Y168.52; and 1987, Y144.64.

Source: Japan, Ministry of International Trade and Industry, Yearbook of Machinery Statistics.

D

Table 7A: Japan's Total Exports of Telephone Terminal and Switching Equipment, 1983-88

(in thousands of dollars*, f.o.b. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988**
Key Telephone Systems	$66,357	$70,052	$69,129	$68,860	$79,082	$69,364	$71,877
Electronic Telephone Switchboards and Exchanges	208,178	158,770	179,158	276,459	329,153	279,519	341,865
Other Telephone Switchboards and Exchanges	57,617	21,094	16,103	17,330	7,153	7,013	
Desk and Wall Telephone Instruments	75,422	165,278	114,669	155,025	103,688	87,488	77,736
Other Telephone Instruments	94,618	175,749	157,355	161,665	218,949	186,786	287,519
Intercom Systems	16,518	16,610	15,858	18,562	18,947	15,566	14,948
Other Telephone Apparatus	20,846	16,619	10,168	7,561	7,263	6,336	6,149
Parts	347,343	599,764	449,631	586,137	563,663	467,334	555,096
Total Exports	886,900	1,223,936	1,012,072	1,291,599	1,327,897	1,119,407	1,355,190

Table 7B: Japan's Exports of Telephone Terminal and Switching Equipment to the United States, 1983-88

(in thousands of dollars*, f.o.b. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988**
Key Telephone Systems	$30,634	$26,871	$28,053	$30,440	$34,054	$31,158	$16,587
Electronic Telephone Switchboards and Exchanges	36,878	37,908	18,098	23,744	21,464	16,798	24,917
Other Telephone Switchboards and Exchanges	10,332	10,194	941	0	14	14	
Desk and Wall Telephone Instruments	46,293	127,347	80,478	112,491	51,955	45,900	23,327
Other Telephone Instruments	71,121	149,248	123,452	122,021	176,342	153,378	197,708
Intercom Systems	3,724	4,389	5,129	5,147	—5,869	5,303	4,064
Other Telephone Apparatus	13,691	9,833	4,639	2,206	2,395	2,261	1,458
Parts	171,358	420,953	266,346	309,348	279,809	234,287	239,544
Exports to the United States	384,030	786,743	527,137	605,397	571,902	489,099	507,604

*The following average annual exchanges rates were used to convert the yen export figures: 1983, Y237.52; 1984, Y236.95; 1985, Y240.29; 1986, Y169.99; 1987, Y145.90; January-October 1987, Y148.03; and January-October 1988, Y128.99

**In 1988 Japan switched its classification system from the Customs Cooperation Council Nomenclature to the Harmonized Commodity Description and Coding System. Therefore, the product categories for 1988 do not always match exactly those for earlier years.

Source: Japan, Ministry of Finance, Japan Exports and Imports: Commodity by Country.

E

Table 7A: Japan's Total Imports of Telephone Terminal and Switching Equipment, 1983-88

(in thousands of dollars*, c.i.f. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988**
Electronic Telephone Switchboards and Exchanges	$8,745	$7,404	$10,242	$18,507	$38,827	$34,172	$61,960
Other Telephone Switchboards and Exchanges	5	44	125	0	0	0	
Other Telephone Apparatus	5,943	11,433	17,747	20,319	45,564	34,786	52,522
Parts	34,332	46,860	63,608	83,210	101,570	80,430	116,767
Total Imports	49,026	65,742	91,723	122,036	185,961	149,388	231,249

Table 7B: Japan's Imports of Telephone Terminal and Switching Equipment from the United States, 1983-88

(in thousands of dollars* c.i.f. value)

	1983	1984	1985	1986	1987	January-October 1987	January-October 1988**
Electronic Telephone Switchboards and Exchanges	$5,134	$6,927	$9,813	$14,799	$33,612	$30,136	$57,646
Other Telephone Switchboards and Exchanges	2	7	4	0	0	0	
Other Telephone Apparatus	1,348	4,365	6,848	3,112	5,224	4,474	4,272
Parts	30,169	43,253	59,267	78,372	87,435	68,612	88,874
Imports from the United States	36,654	54,552	75,932	96,283	126,271	103,222	150,792

*The following average annual exchanges rates were used to convert the yen export figures: 1983, Y237.59; 1984, Y236.91; 1985, Y240.17; 1986, Y170.08; 1987, Y146.01; January-October 1987, Y148.09; and January-October 1988, Y129.02

**In 1988 Japan switched its classification system from the Customs Cooperation Council Nomenclature to the Harmonized Commodity Description and Coding System. Therefore, the product categories for 1988 do not always match exactly those for earlier years.

Source: Japan, Ministry of Finance, Japan Exports and Imports: Commodity by Country.

F

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JEI

REPORT

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EDUCATION IN JAPAN

Summary

The successes of the Japanese education system have become a popular topic in the United States, especially as American students continue to perform poorly by international standards in mathematics and science. While it is convenient to look at Japan's achievements in search of an answer to America's insufficiencies, its education system would be nearly impossible to transplant here. The Japanese system works in its own cultural context, but many of the same techniques/structures would be doomed to failure in the United States, which has quite a different cultural/philosophical bent. America's greatest lesson to learn from Japan is an abstract one -- that of long-term commitment to high-quality education from all levels of society, from the family unit to the federal government.

Despite its high marks in international rankings, Japan's education system continues to have its detractors on several levels. Among their criticisms are the rigors of the examination system and the lack of creative initiative, especially at the highest tiers of graduate education. Cross-cultural comparisons are important perhaps more for the self-examination they force than for the lessons they encourage.

Structure of the Postwar Education System

A quick overview of the interconnections between the Japanese and the American educational systems shows that, while several U.S.-style approaches were the pattern for Japan's post-World War II education system, the mold was a flexible one. With the preeminent industrial system of the time, the United States was seen as having an educational model that supported a strong economy. Thus, American occupation forces in Japan imposed elements of the U.S. system there. This restructuring included the establishment of the 6-3-3 grade system for elementary, junior high and senior high school and the requirement for nine years of compulsory schooling. Coeducation was introduced, and some textbooks were revised. Moral education (shushin), which had been used to promote nationalism before the war, was abolished. (These classes were reinstated as dotaku with a substantially different curriculum when Japan's Ministry of Education, Science and Culture resumed full control after the occupation ended in 1952.) Although school board elections were introduced in an effort to decentralize the education system, eventually Ministry of Education changes resulted in school board members being appointed.

Japanese children enter an educational structure superficially similar to that used in the United States. Children begin school at age 6 in the first grade, although many children have attended private kindergartens or nursery schools. Compulsory education officially ends after a child finishes junior high school, or reaches age 15; however, less than 6 percent of the junior high graduates today do not continue on to senior high school, despite tuition fees of approximately Y76,000 per year in public schools ($450 measured at Y169= $1.00, the 1986 average exchange rate. This was a sevenfold increase in yen terms from 1975). Because the Japanese education system is national, the level of education is generally uniform through grade 9. Textbooks and curriculum are approved nationally so children study essentially the same lessons at the same pace throughout the country.

Until they reach senior high school, children are not tracked according to ability levels as they are in Great Britain and some schools in the United States. Senior high schools are ranked academically or according to special interest, such as commercial or technical high schools. Students take entrance examinations to gain admission. Their junior high teachers generally recommend the school(s) that would be suitable for each pupil. For university-bound students, gaining admission to the proper senior high school is considered of tantamount importance in reaching the ultimate goal of admission to an elite college. Only the most academically rigorous upper secondary schools generally produce students capable of passing the examinations to the country's most prestigious universities.

A growing number of students are enrolling in four-year universities every year, although a large number of women still attend two-year junior colleges. More than half of the population has some education beyond the upper secondary school, including that gained in technical colleges. Although reaching university level is the pinnacle of Japanese education, American universities, especially graduate schools, are considered superior to many of those in Japan. In fact, through hard work at universities, the American student usually makes up the difference in educational levels that existed between himself and his Japanese counterpart in their earlier school careers. One of the exceptions to this is in the field of engineering, where the Japanese often maintain a lead even through the college years.

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Sources of the Difference

Despite some structural similarities between educational systems in the United States and Japan, deep-seated differences have led to Japan's superior achievements in the field of education, particularly those gained in the years of compulsory attendance. These differences can be broken down into several broad categories. First are the differences caused by a national versus a localized system. While the localized system can respond more to the special needs of the students in the area, it also can lag behind, leading to inequities in education levels. A second area of difference stems from the role of the parent, the family's dedication to education, the stability of family life and homogeneity, in particular the impact of common language and cultural values.

National vs. Local Systems - The difference between Japan's national system for education and the United States' more localized approach has important implications for the overall levels of education achieved. Under Japan's national system, the Ministry of Education sets up the curriculum and approves the textbooks. While schools do use different textbooks, generally they select them from a narrow range of choices; for example, about three different junior high school textbook series for English are in widespread use. Through the first nine years, all students are expected to keep up and achieve the same level of education. Under this system teachers generally cover the same material at the same pace throughout the country. If one were to visit a number of different schools in different prefectures, one would find them all keeping to this national timetable.

The students within one class often are divided into small study groups of mixed ability. In this way the quick learners are able to help the slower learners. When called on by the teacher to answer a question, a student usually will turn to his or her neighbors to check the answer before responding. This style of answering by group consensus is considered not only acceptable but the norm.

In sharp contrast, a majority of U.S. schools group students according to their abilities, starting in the early years of elementary school. Fast readers grouped together then leap far ahead of slow readers, who are struggling to grasp basic concepts. It is thus possible, though not as common as it once was, for an American student to get so far ahead of his peers that he will skip a grade in order to be continually challenged. Likewise, the slow learner can lag so far behind that he will have to repeat the same grade.

In Japan students generally are promoted en masse. It is considered the responsibility of the fast learners to teach the slow learners. Responding to the needs of both types of students are the increasingly prevalent special private schools called juku, attended after the regular school day and on weekends (see below). Here the remedial learner can get extra tutoring, while the advanced learner can move ahead.

Under the national system schools in Japan also receive basically the same amount of funding and thus have roughly the same facilities. This contributes to an equity in education levels. In the United States, where much of the funding is state and local, schools in areas that have a higher tax base can raise more money without requiring high levies. This means that the facilities available to children in wealthy suburbs can be considerably different from those enjoyed by their inner-city counterparts. Also, more levels of tracking are available in wealthier, larger schools. In various areas gifted students may take classes at a junior college or even at a college when their schedules allow it. Bright students in Japan do not have an option of going to a university part-time.

Given its democratic base, Japan's education system through the first nine years is quite exemplary according to international standards. The requirements for entry into the nation's top universities, however, set the tone of Japanese education. Since admission is based on the results of a single exam, students spend years preparing. Those who fail the exam, called today's ronin or masterless samurai, study at a private school for a year, waiting for another chance, usually for admission to a school of lesser standing. Each university has its own test, and students usually can sit for only one or two exams each year since the tests -- especially those given by the most competitive schools -- are often given on the same day. There is no national equivalent to America's Scholastic Aptitude Test.

The lower levels of education, therefore, reflect the efforts of teachers and parents to best prepare children for the college entrance exams. Admission to the "right" university is seen as the key to a good job with a respected company, generally assuring a successful lifestyle. Professor Thomas Rohlen of Stanford University discusses in his book, Japan's High Schools, the disproportionately high number of top business executives and government officials who have gone to Tokyo University, a public university usually considered to be the best. For example, nearly 90 percent of top Ministry of Finance officials and over 75 percent of high-ranking Ministry of Foreign Affairs officials were graduated from Tokyo University, a survey in 1978 showed.[1]

The influence of the university-based entrance exam can be felt all the way down the educational line. Teachers often are afraid to be too innovative because unusual presentations may not help their students on the examinations. Teachers generally feel great pressure to follow Ministry of Education guidelines closely so that their students will not fall behind other students in the nation.

An example of the pressure related to university entrance exams can be seen in the reforms proposed for teaching English. Even though Japanese students are required to study English for six years, by the time they graduate from high school they have a difficult time with verbal comprehension and speaking, despite the fact that they often can read and translate difficult passages. Teachers spend very little time teaching these aural and oral skills because there is relatively little payoff for doing it. Extra time spent teaching translation or even obscure grammatical points potentially will help students pass difficult entrance examinations. Many teachers believe that only when listening comprehension and speaking skills are required for the entrance examinations will more time be allotted to their study. Some universities are considering plans to include a listening comprehension section on entrance examinations; if they do, changes are expected to reverberate in the high schools.

[1] Thomas Rohlen, Japan's High Schools (Berkeley, California: University of California Press, 1983), p. 91.

Another way university exam pressure impacts lower levels of education is the search for a loophole. Some parents hope to help their children avoid the exam, so they enter their children in elementary and secondary schools affiliated with certain private universities in a bid to gain automatic admission. But sending a child through the private school system is a costly undertaking. (Typical private upper secondary school tuition in 1986 cost Y184,000 a year, or $1,089 at Y169=$1.00, the year's average exchange rate. Private kindergarten tuition at that time generally cost around Y128,000 a year, $757.)

Some private schools, which are not affiliated with colleges, have good track records for getting students into leading universities. Although expensive, they are becoming more popular as parents try to increase their child's chances of university acceptance by gaining admission to the right senior high, junior high, elementary school and even kindergarten. In 1985, only 0.5 percent of elementary school students were enrolled in private schools but this rose to 2.9 percent for junior high school students. At the non-compulsory high school level, more than 28 percent of the students attended private school.[2] All along the line these private schools have rigorous entrance examinations. This drive to succeed by achieving the highest possible educational goal has its roots in societal values.

Societal Values - The high value placed on education and learning in Japan, which fostered high literacy rates even during pre-Meiji periods, largely stems from Confucian and Buddhist beliefs. Postwar Japan, seeing people as the greatest of its few natural resources, has become education-crazed, with schools not only for young children but many types of schools aimed at adult education.

Although always held in high esteem, education was seen after World War II as a way of ensuring national economic development as well as personal success. If a family sacrificed to help a son (rarely a daughter) to succeed in entering a top university, his eventual employment in a highly paid position ensured that he could take care of his parents in their old age. It was considered a wise investment and one of the surest ways to escape the difficult agricultural or factory life.

Those who nourish this investment -- teachers -- have a special, respected position in Japanese society, more on a par with the university professor in the United States. This esteem for teachers and education has spread beyond the classroom and led to a proliferation of people seeking certification as teachers of flower arrangement, skiing and other skills.

Placing education on such a pedestal also has led to the creation of "education mamas," mothers preoccupied with helping their children succeed along the arduous education road. Kyoiku mothers are ever alert to the needs of their children. Along with providing creature comforts, such as snacks, they are known for preparing the lessons either ahead of or along with their child so as to be able to better provide assistance. And for older children, kyoiku mothers provide juku tuition.

Even the family structure enables the mother to develop this special education relationship. In a typical Japanese household the father works late and goes out after work with business colleagues; his return home often is after younger children have gone to sleep. But the mother spends the bulk of her time with the children.

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[2] U.S. Department of Education, Japanese Education Today (Washington, D.C.: U.S. Government Printing Office, 1987), p. 77.

Sociologists often divide the family unit in Japan into father and mother/child, whereas in the United States the relationship is usually father/mother and child. Many women in Japan do not work or certainly do not work full-time if they have children. Society places primary importance on the mother being at home with her children. Divorce rates and the number of single-parent families are considerably lower in Japan than in the United States.

Since the nonworking mother often does not have close contact with many people outside the home or have employment as a means for personal feedback, sociologists believe that one aspect of the education mama syndrome reflects the phenomenon that if the mother can succeed in producing accomplished children, then she herself is a success. Thus, having children enter a prestigious university is not just a matter of helping the children; it in fact is related to her self-esteem. If her children fail, then she fails as well. While this cannot be applied to all cases, it holds some general truths and is similar to the "stage mom" syndrome in the United States, though this is much more rare.

Another important difference in Japanese societal attitudes toward education is how an ideal child is defined.[3] Highly prized qualities in the American child are individuality, creativity and initiative. The qualities hoped for in a Japanese child, on the other hand, are cooperativeness, diligence and perseverance. Classroom structure in Japan emphasizes these traits by expecting students to work with each other to get the answer and to persevere in sports. Students are not expected to assert their individuality by answering alone. Bright students often feed answers through other students and are reluctant to speak up even if they are correct.

A popular phrase used in Japan to illustrate the disdain for those who stand out (for good or bad) is "the nail that stands up, gets hammered down." This philosophy is quite different from Americans' approach of "doing your own work" or their willingness to speak up. To first-time American observers in a Japanese classroom, the team-effort answers of the pupils usually appear to be "cheating" rather than learning. The lessons in teamwork that the Japanese pupil learns, however, last a lifetime and follow him/her into the workplace.

Many in Japan consider the homogeneous nature of their society to be one of the critical factors in the education system. This idea has been criticized internationally. While the homogeneity of Japanese society has contributed in some ways to achieving a uniformly high educational standard -- through a common language, a general middle-class status undisrupted by immigrants with less wealth or education and different societal values -- critics in the United States and elsewhere stress the values of heterogeneity and the individual -- wide dissemination of ideas, creativity and (ideally) tolerance.

One of the ideas behind America's public education system long has been to help equalize opportunity -- especially since this country is a nation built on immigration. Japan, however, does not have some of the worst problems that

[3] Merry White, The Japanese Educational Challenge (New York, New York: The Free Press, 1987), p. 25.

plague the U.S. system.[4] Here, poverty, the availability of illegal drugs, a lack of common English literacy among many children entering school, and single-parent families contribute to educational levels that, in the aggregate, are lower than in Japan.

The role of teachers provides an insight into the differences in societal values between the United States and Japan, particularly varying attitudes toward the individual, the family, and society's expectations. While U.S. educators lament the lack of respect for teachers here as compared to Japan, many ignore the greater responsibilities for students -- beyond regular teaching -- that the teacher in Japan is assigned, some of which are lifetime commitments. The homeroom teacher has a much closer relationship with his class than his U.S. counterpart has. While the American teacher takes attendance, makes announcements and discusses school problems, the responsibilities of his Japanese counterpart go much deeper. The Japanese educator may be a homeroom teacher throughout a particular class's time in the school, typically following a junior or senior high class through three years. During that time he will read students' daily diaries to learn of any problems that may be developing, and he will be required to visit the home of each of his students at least once. If his students get into trouble, such as shoplifting or truancy, the teacher often is called first -- not the parents -- and he must deal with the police or shopkeepers. The homeroom teacher also is responsible for helping his students find employment on graduation if they do not go on to college.

It is frequently on the teacher, rather than the parent, that the burden of discipline rests. Young children often are indulged at home because many Japanese parents feel that school will teach discipline soon enough. Teachers are responsible for the societal moral education of their students, a subject that has similarities to civics class. The role of regulator falls on the teacher as he must check students' uniforms, which in some schools means checking skirt length or pant-leg width, jacket length, tie length, color of socks and, in some cases, even coats, shoes and satchels. Many teachers dislike this role because they say the rules are too severe or they cannot properly judge infractions. Reminiscent of civil rights controversies in American schools over hair length, most schools in Japan do not allow students to perm their hair, but teachers admit they cannot always judge clearly whether or not a student has natural curl in his/her hair.

The regulator also must carry out the discipline. In the most extreme cases in Japan, physical punishment is allowed. This is not to say that it is

[4] Two criticisms of the Japanese system revolve around bullying (ijime) and the suicide rate of children. Detractors point to the stress of the examination system as leading to high suicide rates. The following is a comparison of the child suicide rates between the United States and Japan for 1985, taken from Statistics and Information Department, Ministry of Health and Welfare and from Vital Statistics of the United States, U.S. National Center for Health Statistics.

Suicides as Percentage of Total Deaths (By Age Group)

	Japan	United States
Both sexes (15-24)	18%	13%
Males (15-24)	17	21
Females (15-24)	21	4

common or that all teachers approve of it, but it remains legal. In the United States, if a teacher hits a student, it is possible for that student or his parents to sue the teacher. By being the role model, counselor and disciplinarian, a teacher in Japan often gains respect but carries more responsibilities than American parents might willingly assign to someone outside the family.

Another societal structure within the education system that dramatically contrasts Japan and the United States is extracurricular activities. In the United States, students from an early age are involved in school activities and often in community activities, which may involve students from one or more schools. While youngsters may play in the school band or be on a sports team after school, they, at some point in their lives, probably are members of such other groups as Little League, Boy/Girl Scouts, the community pool or church activities where they will develop friendships with children who do not attend the same school.

In Japan activities and friendships tend to revolve almost exclusively around school. School vacations are structured so that there is no extended summer vacation. A five-and-a-half-day school week (with Saturday morning classes) reinforces the socialization with students from the same school. In fact, many students spend time at school during vacations participating in club activities. Also, students through junior high school are with the same group of students all day long; they do not switch classes as most do at that level in the United States.

This emphasis on extracurricular activities often is accused of taking U.S. students away from their studies, while advocates emphasize that students active outside of school gain from a broader experience. The question they ask is how much importance should be placed on formal education. The answer in Japan is obvious from the number of students and the amount of time spent attending jukus. Some of the special schools are for academic training, remedial work, accelerated studies, or just more depth. Jukus are one of the reasons that the quick-paced national curriculum can be followed by nearly everyone. They enable extra review for slow learners and generally can reinforce what was taught in a regular lesson.

Sometimes, however, teachers find themselves in conflict with the teaching at jukus and feel their authority is being challenged. A teacher who is rushed through an explanation to keep pace with the national curriculum can find his position threatened, especially if the juku teacher happens to be better or is able to get results through teaching "test tricks."

Jukus also are well known for their preparation of junior and senior high school students for entrance examinations to senior high school or university. While the majority of juku pupils are secondary school students, the enrollment of elementary school students, who are preparing to enter private junior high schools, has been growing. Not all juku, however, teach academic subjects in conjunction with regular classes. Students often can learn "extras," such as how to play the piano, or get a head start by learning English before the subject is taught in regular classes.

System Reforms

The use of jukus does not seem to be an element that school boards in the United States could easily adapt to augment their teaching of mathematics and science, two areas in which American students have fallen far behind international standards. While highly motivated students might be willing to attend, it is unlikely that the general public would want -- or have the desire to pay for -- such a system.

Just as educators in this country are searching for ways to improve the educational system, the Japanese have been reviewing their own system and its shortcomings. In 1985 the Education Ministry held a series of hearings on what was called the Third Reform, an attempt to address problems in the context of current changes in Japan. (The Second Reform occurred with the occupation forces and the first was implemented during the Meiji era in the late 1800s, both periods of intense adaptation of Western thought.)

While the realization of reforms has not yet taken off, among the reform elements being considered in Japan are curriculum changes, increased internationalization, improvements of university-level education, more freedoms for students and ways to stimulate more creativity. Proposals to increase freedoms include fewer uniform regulations and other petty rules but not abolition of them. Also, Japan is seeking ways to counteract the international criticism of its lack of creativity and innovation. The United States still is viewed as having an edge in the pure sciences. Japan also is taking steps to revise the way English is taught in order to place more emphasis on listening and speaking skills. Although educators hope to make advances, many fear that more freedom for students or other reforms might erode the high standards of Japan's education system.

Meanwhile, the United States is trying to figure out how Japan achieves higher levels of education with larger class sizes and less money spent as a percentage of gross national product. (In 1983, the United States spent 6.8 percent of its GNP on public education, while Japan's share was 5.6 percent.) American schools are looking toward more discipline, ways to encourage students to spend more hours studying, and the possibility of uniforms.

Neither education system is without faults and both are bound to become better as they reevaluate and adopt the best elements from the other. The biggest U.S. challenge is to raise overall education standards and to improve the equality of education received. Japan recognizes its need to increase opportunities for creativity and innovation. The solutions cannot be directly adopted from the other country due to cultural/societal differences. One question, however, is whether there are sufficient rewards from society to make the individual change. America is seeking motivational factors to raise overall levels of education as well as to keep inner-city youth in school instead of on the street selling drugs. Some education experts suggest that a recent increase in the involvement of American business in education could help turn the situation around. Many eyes are on a school in Chicago funded by business concerns, but it is too early to see what kind of long-term commitment or results will evolve. In Japan educators are weighing the use of rewards for innovations, particularly to young scientists and professors, and the provision of more opportunities to pursue those goals.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

A Two-Part Report: A and B

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Japanese Economy Remains Strong

The Japanese economy, having demonstrated its ability over shorter distances, now is beginning to look strong in the marathon as well. Pending confirmation next month by the gross national product statistics, already-released data virtually affirm that growth continued in the last quarter of 1988, ensuring a good full-year performance.

Industrial production, for example, continued to surge and ended the year 9.4 percent ahead of 1987. December figures were up 0.5 percent on a seasonally adjusted basis from the previous month, putting them 8.4 percent ahead of December 1987. Although inventories grew for the fourth straight month, they still are at historically low levels, suggesting Japanese manufacturers are making only modest progress in catching up with exceptionally strong demand.

Japanese consumers, at least those who did their December shopping in department stores, continued to do their part, with an increase in spending of

But Japanese firms have a good track record of late for sizing up their customers fairly wisely and adjusting their operations appropriately. Staying abreast of the fleet-footed Japanese consumer and his fickle foreign counterpart is no mean challenge, but, on the evidence of the past year, Japanese firms have demonstrated an ability to keep pace, without getting too far ahead.

Douglas Ostrom

Current Account Surplus Shrinks In 1988

Normally, a hoped-for event that was eight years in coming would be cause for celebration. Yet few could muster much joy on the release of Japan's 1988 current account figure, which showed the first calendar year decline in the surplus since 1981 when Japan's string of surpluses began. The widely watched comprehensive measure of Japan's trade status was down 8.7 percent to $79.5 billion, putting it below not only last year's mark but the 1986 level as well (see Table 1). Yet many had hoped for more improvement. A year ago Tokyo had expected a 12.2 percent decline in the huge surplus, to $72 billion, in the fiscal year that ends March 31. The latest figure reduces further the already unlikely prospect that the government's projection will be reached.

Table 1: Japan's Balance of Payments

(in millions of dollars, IMF value basis)

	1984	1985	1986	1987	1988*
Current Account	$35,003	$49,169	$85,845	$87,015	$79,488
Trade Balance	44,257	55,986	92,827	96,386	94,789
Exports (f.o.b.)	168,290	174,015	205,591	224,605	259,555
Imports (f.o.b.)	124,033	118,029	112,764	128,219	164,766
Services	-7,747	-5,165	-4,932	-5,702	-11,167
Transfers	-1,507	-1,652	-2,050	-3,669	-4,134
Long-Term Capital	-49,651	-64,542	-131,461	-136,532	-130,326
Basic Balance	-14,648	-15,373	-45,616	-49,517	-50,838
Short-Term Capital	-4,295	-936	-1,609	23,865	19,536
Errors and Omissions	3,743	3,991	2,458	-3,893	2,320
Overall Balance	-15,200	-12,318	-44,767	-29,545	-28,982

*Preliminary.

Source: Bank of Japan

The reason for the pessimisim is contained in the October-December figures, which showed a 6.1 percent jump in the surplus over the same period a year earlier. Rising exports swamped the other components of the current account, a result largely anticipated by the customs-clearance trade figures released earlier (see JEI Report No. 5B, February 3, 1989).

Huge current account surpluses imply large net capital outflows, which may be long-term, short-term or governmental. In recent years Japan, in effect, has financed its trading partners' current account deficits through enormous long-term capital outflows that sometimes have been larger than necessary to finance the deficits, permitting small net inflows of other kinds of funds. Early in 1988, however, several analysts expressed concern that these long-term capital flows were drying up, that Japanese investors were losing interest in overseas markets. They speculated that the Japanese government was making up the difference, although the full extent of government intervention was unknown. By the end of the year, lost confidence, if any, was restored, as reflected in the continuing long-term capital outflow.

While this outflow showed little change from 1987, its components indicated that Japanese investors, if anything, were more positive about foreign investment than the year before (see Table 2). The 1987 figure was inflated as Americans and others fled the Tokyo stock market both before and after the worldwide stock market crash in October 1987, swelling the net capital outflow. In other words, panicky Americans helped finance the U.S. current account deficit in 1987. Although Americans and other foreigners withdrew funds from the Japanese bond market in 1988, they reversed course on stocks, adding to their holdings, making them much less of a factor that year in long-term capital flows.

Table 2: Net Long-Term Capital Flows

(in millions of dollars)

		1987			1988*	
	Outflows	Inflows	Net	Outflows	Inflows	Net
Direct Investment	$-19,519	$1,165	$-18,354	$-34,138	$-489	$-34,627
Trade Credits	-535	-1	-536	-6,678	-12	-6,690
Loans	-16,190	-119	-16,309	-14,942	-82	-15,024
Securities	-87,757	-6,081	-93,838	-87,135	20,303	-66,832
Stocks	-16,874	-42,835	-59,709	-2,993	6,810	3,817
Bonds	-72,885	6,675	-66,210	-85,812	-21,628	-107,440
Yen-Denominated Bonds Issued in Japan	2,002	n.a.	2,002	1,670	n.a.	1,670
External Bonds**	n.a.	30,079	30,079	n.a.	35,121	35,121
Other	-8,829	1,334	-7,496	-6,393	-760	-7,153
Total	-132,830	-3,702	-136,532	-149,286	18,960	-130,326

Note: A negative sign indicates a capital outflow.

*Preliminary.
**Bonds issued outside of Japan by Japanese institutions.

Source: Bank of Japan

Among outbound capital flows, direct investment, which was up 74.9 percent, showed the largest percentage increase in 1988. While full-year figures are not available, data through June 30, 1988 showed that 59 percent of these funds went to the United States. The rise in direct investment here and elsewhere is clearly a dual response to currency appreciation. In addition to reducing the costs of overseas property when expressed in yen, a stronger currency has led Japanese firms to try to save money by producing goods and services overseas.

As Table 2 shows, securities, especially bonds, continue to account for the lion's share of Japanese investment abroad. In the first half of 1988, 53 percent of these funds went to the United States. Together, the figures on direct investment and securities suggest the significant extent to which Japanese investors have opted to put their foreign investment eggs in an American basket.

While a net capital outflow at any point in time is the mirror image of the current account surplus, over time the investments can lead to a larger surplus as interest and other income flows back to Japan. Japan's net international investment income rose $4.5 billion in 1988, reflecting Japan's emergence as the world's largest creditor, but rapidly rising tourism expenditures more than offset this effect, pushing the overall services account further into deficit for the second straight year (Table 1). One of the questions for the 1990s is whether Japanese tourists will continue to proliferate abroad faster than Japanese investments. If not, the already tough job of reducing Japan's current account surplus will become commensurately more difficult.

Douglas Ostrom

Japan-EC Trade, Investment Rise

Japan's ties with the European Community are growing by leaps and bounds in the trade and the investment fields. Just as it has with the United States, however, this increased interdependence does not mean a reduction in frictions for Japan. In addition, the transition to a more interdependent relationship is complicated by the EC's drive to unify its internal common market starting in 1992, which is rekindling debate on many dormant bilateral issues. Although EC leaders insist that the 1992 integration will not create a "fortress Europe," it is clear that reciprocity and local content requirements will mold the shape of foreign access to the unified European market.

The state of bilateral trade differs greatly when viewed in dollars as opposed to yen (see Table). While Tokyo can claim that its trade surplus with the 12-member community declined slightly in yen terms for 1988, Japan's surplus rose nearly 14 percent when translated into dollars. What is undeniable in either yen or dollar terms is that both the value of imports and the overall value of bilateral trade is growing swiftly. Growth in purchases from the EC outpaced the expansion of Japan's exports to the group in both 1987 and 1988. Yet, because the absolute value of imports is about half that of exports, the growth rate for Japan-bound goods must be at least twice as high as export growth to keep the trade gap from widening. That is why EC leaders continue to prod Tokyo to increase imports even though purchases clearly are enjoying healthy growth.

In return, Tokyo is hoping that the community will drop or ease many EC-level restrictions on inbound Japanese products and that nationally imposed restrictions will go the same way. Bilateral talks that ended February 10 led to some progress: EC negotiators agreed to lift the quantitative restrictions on 41 of 131 items from Japan and will consider freeing the remaining 90. West

Germany, Denmark and Ireland held out the promise of dropping all existing national curbs against Japanese goods, while France, Italy, Spain, Greece, Belgium, Luxembourg and the Netherlands agreed to partial liberalizations. Portugal was the odd man out, refusing to lift any of its 23 import bans. Britain did not participate in the talks. Despite some progress, items of greatest concern to Japan, including cars, consumer goods and electronic equipment, remained sensitive issues; they often were omitted from the lists of goods to be liberalized. Another round of talks has been scheduled, and Tokyo remains hopeful of further progress.

Japanese direct investment in Europe also is booming. According to the Japan External Trade Organization, the number of Japanese-owned plants on the continent rose from 282 in 1987 to more than 400 by the end of last year. Between fiscal years 1983 and 1987, according to the Ministry of Finance, cumulative Japanese investment in Europe rose from $115 million to $797 million in the transportation equipment industry, nearly tripled in the electric/electronic machinery field to $704 million, and doubled in the area of pharmaceuticals and chemicals. The services sector, too, is not being ignored: much of the $2.5 billion that was poured into Britain and the $1.8 billion that was funneled into Luxembourg in FY 1987 can be totted up to the increased activities of Japanese finance and insurance companies.

European governments view this impressive growth with some qualms. On the one hand, they have been urging Japan to increase investment and decrease exports for years. The EC's antidumping rules on finished products as well as on imported components make investment in local plant and equipment almost mandatory. Now that Japanese firms are sharply raising overseas investment, however, European fears have revived that domestic industry will be swamped.

This revival has led to the imposition of local content requirements for a growing range of goods. London and Paris are locked in a confrontation over whether cars produced in Britain by Nissan Motor Co., Ltd.'s subsidiary are British or Japanese. Paris is insisting that the vehicles must have 80 percent British content. London and Nissan (and, indirectly, the EC) say that the current 60 percent British composition is sufficient. At stake is unhindered access to the French market for the locally produced cars. The United States now is caught in the crossfire on this issue. The EC decided February 10 to extend its 20 percent antidumping duty on copiers brought in from Japan to copiers assembled in Ricoh Co., Ltd.'s California plant and shipped to the community, claiming that the "Made in U.S.A" label is a smokescreen. The decision warns that as long as an item subject to an antidumping-duty order contains a significant share of parts made by a company liable for extra duties, the EC will apply dumping duties regardless of the country of origin of the final product. This interpretation threatens to incur the wrath of American firms with their extensive overseas assembly and production networks.

Even this antidumping rule change may not be enough, some European policymakers worry. A parade of investment announcements by Japanese firms with a strong commitment to both local production and parts procurement surely will translate into greater market share and much stiffer competition for domestic producers. Toyota Motor Corp. expects to build a major auto plant in Britain. Other Japanese car makers already have wholly owned plants or tie-ups with European firms or are investigating the situation. Among semiconductor makers, at present only NEC Corp. has a completely integrated operation within the community. In response to the EC's decision to impose a local content requirement

Japan's Trade with the European Community

(in millions and percent change)

a. in yen

	Exports		Imports		Balance	
	Value	Change	Value	Change	Value	Change
European Community						
1988	Y6,002,067	9.4%	Y3,082,596	20.2%	Y2,919,471	-0.1%
1987	5,487,963	6.1	2,564,847	9.2	2,923,116	3.5
Britain						
1988	1,361,791	11.6	536,179	21.0	825,612	6.2
1987	1,220,781	8.7	443,096	-25.3	777,685	-16.3
West Germany						
1988	2,022,659	8.1	1,037,624	16.2	985,035	0.7
1987	1,871,028	5.9	893,045	23.1	977,983	-6.0
France						
1988	638,604	9.4	552,844	33.0	85,760	-49.0
1987	583,796	9.7	415,691	33.4	168,105	-23.8
Italy						
1988	356,715	16.9	370,051	18.9	-14,336	-135.2
1987	305,111	5.1	311,206	24.1	-6,095	*

b. in dollars

	Exports		Imports		Balance	
	Value	Change	Value	Change	Value	Change
European Community						
1988	$46,867	24.3%	$24,069	36.2%	$22,798	13.9%
1987	37,693	22.9	17,670	26.3	20,023	20.0
Britain						
1988	10,630	26.5	4,189	37.0	6,441	20.5
1987	8,400	26.4	3,057	-14.5	5,343	73.9
West Germany						
1988	15,795	23.1	8,109	31.8	7,686	15.0
1987	12,833	22.5	6,150	43.1	6,683	8.1
France						
1988	4,986	24.2	4,313	50.2	673	-41.2
1987	4,014	27.4	2,871	54.8	1,143	-11.8
Italy						
1988	2,786	32.5	2,893	35.5	-107	-234.3
1987	2,103	5.1	2,135	42.8	-32	*

*Meaningless.

Source: Ministry of Finance

on integrated circuts, Fujitsu, Ltd. and Toshiba Corp. have announced their intention to add wafer fabrication plants to their existing European assembly and testing facilities. Some European governments are studying even more complex local content requirements, perhaps mandating a certain amount of local research and development or engineering work before a product is considered "European."

In an effort to bring this trend to a halt, Tokyo and some private Japanese business organizations are exploring the development of international standards for country-of-origin rules. The goal is to avoid the worst possible situation of every country establishing its own criteria for "domestic" and "foreign" goods, creating a maze of nontariff barriers. While Japan certainly prefers that there be no such rules anywhere, a uniform standard would be superior to classification chaos. Whether this idea will take off is uncertain at best; skeptics point to the difficulties encountered in harmonizing EC-member views on plans for 1992 and the difficult Uruguay Round of multilateral trade negotiations as examples of what can happen. In any event deeper, stronger Japan-EC relations clearly are generating new problems as they solve old ones and exacerbate still others. The challenges for policymakers are growing, not decreasing, but so are the rewards.

Jon Choy

FSX Stirs Concerns About Japanese Technology Grab

Bilateral joint development of Japan's next-generation fighter support aircraft -- hailed by some U.S. defense officials as the first step in a new era of U.S.-Japan defense cooperation -- may be jeopardized by growing criticism from a number of Americans of what they contend is the proposal's adverse economic implications. Although a government-to-government accord was concluded last November, congressional criticism of certain provisions of the agreement as well as a lack of consensus within the administration regarding the broader economic ramifications of joint weapons development ultimately may derail the deal. A series of negative editorials and op-ed pieces in prominent newspapers, such as the New York Times and the Journal of Commerce, have further fanned the fires. The common theme of these critiques is that the American side concluded this agreement without adequate attention to the long-term implications for U.S. industry and the trade balance.

After more than a year of protracted negotiations, the United States and Japan signed a memorandum of understanding November 29, 1988 stipulating that Mitsubishi Heavy Industries, Ltd. would be the lead company to design and build a new defense aircraft based on General Dynamics Corp.'s F-16 fighter aircraft. General Dynamics, which looked on the FSX project as an invaluable way to improve the F-16, was designated the main American subcontractor. It and other American companies are guaranteed approximately 35 to 45 percent of the research and development work.

Despite the MOU provisions, MHI and General Dynamics remained at loggerheads over the division of research and development -- principally in the area of wing design. The wings will be made from composite materials using the most sophisticated MHI technology. General Dynamics, which wants to use this know-how to upgrade its F-16's wings, argued that only by participating in prototype production could it gain the necessary knowledge. MHI had been reticent about transferring the proprietary technology due, in part, to concerns that it would

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A Two-Part Report: A and B

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INTELLECTUAL PROPERTY: WHOSE IDEA IS IT, ANYWAY?

Summary

It is universally accepted that creative thinking can enhance the material as well as the aesthetic wealth of society. Conversely, governments disagree on how (and even whether) to protect such creativity. The mounting pressures of global economic competition combined with the key role that advanced technology plays in this competition have brought intellectual property rules near the top of many government agendas, especially in the United States and Japan, the world's acknowledged leaders and competitors in high technology. Although both governments are striving to harmonize intellectual property rules, fundamental differences in industrial structure, in innovative comparative advantage and in basic attitudes toward intellectual property may ensure that frictions in this area never are completely resolved.

Ideas as Property

The fact that an idea is ephemeral has not prevented the concept of intellectual property from taking solid root in Western civilization. A new idea confers a competitive advantage on the innovator only if it is transformed into a product or service. But selling the product on the open market opens the door to copying by competitors. A mantle of legal rights is the only way to safeguard intangible creativity. The right of central authorities to grant special rights to makers of unique or innovative products under certain circumstances has gone hand in hand with the development of market economies.

As the focus of economic activity shifted from agriculture to commerce and industry, the need to reward innovation through intellectual property

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protection became widespread in the Western world. During the industrial revolution, Western governments began to understand the broad economic benefits derived from innovation and naturally extended protection to the ideas underlying physical products as well as to the products themselves. Protection of the physical expression of an idea has been firmly buttressed by protection of an idea no matter what form it takes.

The essence of all intellectual property rights is to grant control of an idea to the creator. This allows him to reap the benefits of his creativity by using the idea himself while preventing others from doing so or by allowing others to use his idea for a fee. Benefits conferred on innovators are balanced by the gains enjoyed by the entire society from the availability of new or improved products and from the potential for further advances based on the new knowledge.

Over time several different kinds of intellectual property safeguards have been developed to meet the varied needs of industrial, commercial and artistic endeavors:

Patent - A patent is granted for new and useful products, production processes or methods for using new or existing products. A patent is a grant issued by a national government bestowing the right to exclude others from making, using or selling the invention within the national territory. Patent coverage has been extended to cover innovative production processes as well. Included under this category are lesser forms of protection, such as utility models, petty patents and inventor's certificates. This also covers other kinds of industrial patents, such as patents of improvement, patents of importation and patents and certificates of addition. These other forms of patents coexist with regular patents and provide some protection when an ordinary patent is not available or denied.

The key premise of a patent is that it encourages inventors to make public the details of their creation (through the contents of patent applications) in exchange for exclusive rights to use it for a limited duration. The rights granted must be a sufficient incentive to the inventor to induce him to allow others to study his creation. Obversely, the patent right should not be so strong as to prevent or deter others from building on or improving the patented invention. Striking a proper balance between the desires of inventors and users is critical to the proper functioning of a patent system as well as a subject of international debate.

Trade secret - A trade secret is information -- including a formula, pattern, compilation, program, device, method, technique or process -- that derives independent economic value, actual or potential, from not being generally known and not being readily ascertained by legal means by other people who can obtain economic value from its disclosure or use. Holders of trade secrets must expend a reasonable effort to maintain secrecy in order to claim protection of this type. The concept of trade secrets certainly predates that of patents but has been less relevant until recently. Trade secrets are a less

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optimal solution for protecting intellectual property from society's viewpoint because, by definition, the inventor does not share the details of his creation, thereby possibly slowing the pace of technological advance.

In recent years, however, trade secrets have been regaining favor specifically because the pace of technological development has increased sharply. Advances in some fields are now so rapid that the economic usefulness of some innovations lasts less time than it takes to obtain patent protection. To counter this trend, governments are trying to reduce the patent processing time, especially for leading-edge technologies. At the same time, the United States is trying to win international acceptance of greater rights in relation to trade secrets.

Copyright - A copyright is a form of protection granted by a national government to authors of original works, including literary, dramatic, musical, artistic and certain other intellectual works. The copyright owner has the exclusive right to: reproduce the copyrighted work in copies or audio recordings; prepare derivative works based on the copyrighted work; distribute copies of the protected work to the public by sale, rental, lease or loan; and perform the copyrighted work publicly in the case of literary, dramatic, musical and choreographic works and pantomimes or display it in the case of pictorial graphic and sculptural works, including individual images of a motion picture or other audiovisual work. In short, a copyright protects an author's creation regardless of the format in which it is cast.

This last attribute has been stretched, in the opinion of some observers, to include industrial property. Specifically, programmers have used copyright laws to protect the many aspects of computer software, including not only the written form but its electronic, magnetic and chip-embedded forms and even its appearance to the user. The main objection to the copyrighting of computer programs is that the length of protection (up to 50 years in the United States) is much too long and can hinder the development of better, compatible software.

Trademark/service mark - A trademark/service mark is any word, name, symbol, device or any combination thereof adopted and used by a manufacturer or merchant to identify his goods/services and distinguish them from those manufactured or sold by others. Counterfeiting, one of two trademark/service mark violations, is the unauthorized use of a representation or copy of a registered trademark/service mark. Other forms of infringement include the offering for sale, distribution or advertising of goods or services using a copy or colorable imitation of a trademark/service mark so similar to that of another that deception or confusion is likely to result. Specifically excluded from these definitions of infringement are: goods produced or marketed under a trademark/service mark with the consent of the registered owner and goods that bear a trademark but are imported or sold in contravention of a commercial arrangement (so-called gray market goods).

Manufacturers long have recognized the value of a respected brand name. The wide availability of counterfeit $20 Rolex watches and Gucci handbags is a testament to this. As services become an increasingly important area of economic endeavor, advanced countries have tended to upgrade the importance of service mark protection. This area is hotly debated between developing and advanced countries.

The Key to Future Competitiveness

Differences between foreign and American approaches to intellectual property are not new phenomena. U.S. businesses have contended with pirates and counterfeiters for decades, but the overwhelmingly dominant position of American industry in the postwar period cushioned any adverse effects. Only as the U.S. economic position has eroded in relation to the rest of the world has Washington become sufficiently concerned over guarding American intellectual property assets to act. High technology industry, portrayed as the key to American economic prosperity in the future, is keenly interested in stronger protection for its intangible assets. Washington also is increasingly aware of the link between a strong commercial technology base and a strong defense industrial base.

The electronics field is probably the most obvious candidate for strong IP protection. The development and production of state-of-the-art components and products takes millions if not billions of dollars. Many household appliances and consumer products rely on advanced integrated circuits, a condition even more true of military equipment. Protecting this rapidly changing field has strained existing U.S. laws, finally resulting in a new form of IP protection, the Semiconductor Chip Protection Act of 1984 (discussed below). Although other industrial countries, including Japan, have adopted safeguards similar to those in U.S. law, the potential for disagreement with developing countries remains high.

Of equal importance is protecting the computer programs that allow all this marvelous hardware to perform useful functions. According to some observers, software development is far more daunting than designing a new microchip. The diffusion of computers into every area of economic activity is multiplying the demand for software. Artificial intelligence programs, robotic control software, educational programs, business management and telecommunications software represent millions of man-hours of work. Because this is one field where the United States has a clear international competitive advantage, Washington is particularly keen to establish uniform international protection.

The pharmaceutical and chemical industries traditionally have made heavy use of IP protection. The advent of biotechnology, with its broad applications in agriculture, food products and pollution control as well as pharmaceuticals, has added to the American interest in strong international IP rules. Although protection is well established for drugs and plants developed with traditional methods, biotechnology products have presented some novel issues.

With regard to pharmaceuticals, the production of naturally occurring substances through biotechnological means poses a problem. The end product is not novel or nonobvious, two requirements for a patent. As the biotechnology industry was developing, U.S. process patent law, an obvious alternative, was weak by international standards. In 1982, however, the U.S. Supreme Court ruled that microorganisms that have been altered through biotechnology were patentable. In 1986 the first patent for a genetically engineered plant was granted; a year later patent applications for genetically altered animals were accepted.

The scope and the rules for protecting biotechnology products are subjects of intense negotiation among American, Japanese and European patent officials. Any results of patent officials' discussions may become moot, however, with the development of a body of law arising from the numerous patent infringement suits filed by American and European drug companies.

Another area ripe for IP protection is new materials, the name for a broad range of substances that exhibit improved or novel characteristics. Structural plastics, carbon composites, high-strength fibers, high-performance ceramics and optoelectronic materials are the subjects of intense research and development efforts because of their potential economic value. The hottest area of new materials today is high-temperature superconductors. HTS materials, with their ability to conduct electric current with no loss of power to resistance, could revolutionize industrial and everyday life. Patent offices in Europe, the United States and Japan are braced for a flood of applications in this field. According to Japanese media reports, Japanese firms are aggressively filing HTS applications, an estimated 2,000 in Japan alone. Harmonization of patent rules would help prevent patent gridlock in this fast-moving field.

Besides the income derived from direct use of the invention by its creator, IP laws allow creators to generate income indirectly through licensing agreements. When the United States was technologically dominant, American firms licensed their technology for relatively little money. Sony Corp., for example, got a boost early in its history by inexpensively licensing U.S. transistor technology. Today, however, U.S. firms demand much more out of technology licensing agreements. This trend also is apparent in Japan, which, despite its overall deficit in technology licensing fees, has been enjoying a surplus if only new licenses are counted. In certain technology fields, the Japanese are careful not to license away their leads. But Japan also is sensitive to rising international demands that it play a more active role in global development. There is a broad consensus within the country that technology licensing will become an important export in the years to come.

The cost of weak international IP protection can be very high. According to a 1988 study by the U.S. International Trade Commission, the companies surveyed estimated that inadequate intellectual property protection cost them $23.8 billion in global sales in 1986. Interestingly, the survey showed that imports of counterfeit or pirated goods were a relatively small problem, amounting to $1.8 billion in 1986. The loss of overseas sales due to competition from local counterfeiters was estimated at $7.7 billion. U.S. exports were reduced directly by an estimated $6.2 billion because of pirated products. And the estimated loss of $3.1 billion in unpaid license fees also was laid to poor IP protection abroad.

Protecting intellectual property assets clearly confers significant direct and indirect benefits, both immediately and, what is more important, in the future. It is equally clear that the failure to vigorously defend IP rights around the world has a high cost, one that is likely to rise as more countries enter the high technology arena. Indeed, as the price of developing advanced technology rises, so does the incentive to infringe or pirate IP assets. Many American semiconductor firms attribute Japan's speedy entry into some product segments in the 1970s to blatant copying of U.S. products. While this was not illegal at the time, it served as a clear signal for action. American policymakers now perceive that there is a strong link between U.S. intellectual property assets and its international competitive position. After decades of neglect, Washington's efforts to strengthen international IP protection are raising foreign worries over intellectual protectionism. While the possibility certainly exists, Washington unquestionably has cause for concern with regard to foreign IP protection. On the other side of the coin, foreign countries have some grievances with U.S. approaches to safeguarding IP.

The American and the Japanese Systems

Friction between the United States and Japan over intellectual property is a product of overt and subtle differences in their IP protection laws and practices. Many Americans have charged that Japan's system discriminates against foreign applicants, a charge strongly denied by Japanese patent authorities. Those who closely examine Japan's patent system will not find questions that take into account an applicant's home country during the examination process. Therefore, overt discrimination against foreigners does not exist. In terms of actual operation, however, the reasons for the foreign complaints are clear, particularly when the Japanese system is compared to its U.S. counterpart.

Patents - Unlike many other aspects of Japan's system of government, the Japanese patent system is not patterned after the American model but instead draws from the German approach. Nevertheless, from a basic standpoint the two systems are similar: inventions must be novel and nonobvious in order to qualify for a patent; the term of protection is comparable, with a U.S. patent lasting 17 years from the date of grant and a Japanese certificate good for 20 years from the date of application or 15 years from the date of grant; post-grant oppositions are allowed to test the validity of a patent; and patent holders in both countries generally are given the same legal rights to prevent use by others, to license the patent, and to use it freely for their own benefit. In several respects, however, the two systems are very distinct.

- Requirement of prior art - In the U.S. system patent applications must list all existing patents plus information used to develop the new idea and anything closely related. This prior art makes it easier for the patent examiner to evaluate the novelty and nonobvious nature of the application. If a U.S. submission fails to include all prior art, the applicant may be subject to stiff penalties. The absence of a prior art requirement in Japan exacerbates the phenomenon known as patent flooding, according to U.S. companies (see below), and even can lead to a patent for an already patented product. Because there are no penalties for applying for a patent on a productive process that already has been patented, foreign firms charge that the Japanese system actually encourages conflicting filings.

- Location of inventive activity - For purposes of attributing a discovery to its inventor, the U.S. patent system recognizes only activity that takes place in the United States. In contrast, Japan and most European countries recognize inventive activity anywhere in the world. In this case, it is the U.S. system that discriminates against foreign inventions -- although not necessarily inventors since an American's overseas activities also are not recognized. This difference is a severe handicap from the standpoint of Japanese firms.

- First to file vs. first to invent - This is another area where unique U.S. rules irritate foreign applicants. Under the U.S. approach the act of inventing is accompanied by the creation of a right to obtain protection for that invention. An inventor has one year from the date of announcing the invention to file a patent application. This one-year grace period is an absolute defense against anyone else trying to patent the invention as long as the creator does not suppress, conceal or abandon it. In Japan and elsewhere the right to file a patent is not connected to the act of invention. The first one to file a valid patent has claim to the invention.

The first-to-file approach is a partial explanation of why five times as many patents are filed in Japan as in the United States. Japanese firms promptly file patents not only for basic inventions but for as many permutations and derivations as they can conceive. The rush to file often means that many applications are incomplete, imperfect or impractical. Under the U.S. system an inventor can fine-tune his invention and explore its uses before applying for a patent. The American method also means, however, that a Johnny-come-lately in the invention contest still can win the patent race. American firms that have been slow to file in Japan sometimes have found that competitors have beaten them to it, even though the Japanese patent agency observes a six-month grace period between invention and filing. This significant difference has generated many charges of unfairness against the Japanese system.

- Scope of patent claim - Although on paper this difference no longer exists, Japan's patent system previously limited each application to a single, narrow claim in contrast to the multiple claims allowed in the United States. The inventor of the bicycle, for example, could file one application in the United States for a "two-wheeled vehicle powered by its rider." This application would include the wheels, pedals, seat, steering mechanism and other components necessary to create a whole, working bicycle. In Japan an application had to be filed for each part as well as the whole. This is another reason why comparatively more patents have been filed in Japan than in the United States.

It also has led to a practice known among foreign companies as patent flooding. Continuing the bicycle analogy, if an American firm files a basic patent for a bicycle, Japanese law allows another company to file a patent for a bicycle "with special pedals," or for critical components, such as the chain/gear system. The holder of a basic Japanese patent seeking to commercialize his invention can be confronted by a whole array of closely related patents that prevent him from the free exercise of his patent rights. The value of a basic patent can be severely reduced in Japan by the need to cross-license closely related patents.

At the other end of the process, many foreign firms complain that Japanese patents are taken too literally by Japanese Patent Office examiners. If an already issued patent covers a particular product with 10 to 20 percent of ingredient X, a JPO examiner will allow a patent for a similar product because it uses 21 percent. The extra 1 percentage point is not likely to make any difference in the product's performance, but the addition qualifies the applicant for a separate patent. In all other countries the 21 percent patent would be rejected on the grounds that the 1 point difference had no material effect. This literalness again reduces the value of a Japanese patent.

Since the beginning of 1988 the Japanese Patent Office has accepted multiple-claim patents and promised to toughen its standards for novelty. Because JPO waits 18 months before publishing the contents of patent applications, there is no evidence yet whether this rule change will lead to a shift in the content and the number of patent applications.

- Publication of patent applications - On this point it is the U.S. system that is out of line with practice in other countries. As mentioned, JPO opens patent applications for public inspection 18 months after receiving them. The U.S. Patent and Trademark Office, in contrast, keeps all information regarding an application confidential until it decides to grant or deny the request. (The applicant can ask that the information be released ahead of this point.) While some foreigners complain that the U.S. system hinders the disseination of new technology, PTO's rapid reduction of the average processing period to within 18 months makes its nondisclosure practice no more burdensome than the Japanese or the European approach. In fact, PTO considers its system to be an advantage since a patent's details are revealed only after protection has been granted. In Japan, on the other hand, an invention can be examined by competitors before any protection is in place. Foreign complaints that Japanese competitors quickly take advantage of such information to develop alternative or derivative technology without fear of penalty (administrative and legal remedies are seen as impotent) are a major source of foreign investors' irritation with the Japanese system.

- Pregrant opposition - One purpose of allowing access to an application before granting the patent is to allow third parties to file oppositions. This practice, in part, compensates for Japan's lack of a prior art requirement. The onus of proving the novelty of the application is shared by the applicant and the third parties. In theory, the results should be similar to those achieved by the U.S. prior art requirement: applications that might infringe on existing patents or are insufficiently novel will be rejected. In reality, however, the practice severely weakens the value of a patent.

Third parties often have several years to study and prepare oppositions to a given patent application. (The paperwork is laid open to public inspection 18 months after a filing, while the call for oppositions comes sometime between two and seven years later.) Any number of oppositions can be filed. The applicant, on the other hand, only has three months to formulate a reply to each opposition. Foreign firms often spend up to a month or more just translating the oppositions, which can be many pages in length and present complex arguments. The application can be denied if JPO considers a rebuttal to just one opposition as unsatisfactory. The impact of this pregrant opposition system is felt most keenly on applications for critical or seminal inventions. This is not surprising since it is to the advantage of Japanese competitors to delay such a patent, regardless of who filed it. West Germany has dropped pregrant opposition from its system, and the United States is strongly urging Japan to follow.

In summary, the principal U.S. complaints about the Japanese system can be grouped into two categories:

- The processing period is excessive. Although the JPO receives many times the number of applications its U.S. counterpart handles (see Table 1 and Table 2), the number of Japanese patent examiners is not much more than half that in the United States (approximately 860 versus 1,500 in 1987). Combined with the current system of pregrant and postgrant oppositions, approval of a patent application can take as long as 10 years.

- The Japanese system does not provide adequate protection. Because a patent can take as long as 10 years to obtain and since the patent's lifetime

Table 1: Industrial Property Applied for and Registered in Japan

(number of cases)

	Patents*		Trademarks	
	Applied	Registered	Applied	Registered
1960	141,097	49,237	39,089	20,516
1965	227,738	75,599	62,123	31,217
1970	319,757	80,382	139,414	49,089
1975	392,731	129,963	155,469	109,166
1980	438,436	127,396	127,151	65,739
1981	476,541	132,595	134,251	68,314
1982	499,609	139,404	139,198	86,125
Foreign	29,010	9,454	13,184	6,352
1983	517,817	141,938	150,318	113,245
Foreign	29,775	10,386	14,273	9,125
1984	541,631	153,791	161,882	116,636
Foreign	28,251	11,356	15,418	9,483
1985	562,417	128,090	161,546	119,534
Foreign	31,341	8,880	14,989	9,388
1986	576,935	136,703	168,890	118,475
Foreign	32,557	9,788	15,894	9,019
1987	596,726	146,814	175,861	117,075
Foreign	32,913	9,589	17,468	8,775

*Includes utility models and designs.

Source: Japanese Patent Office

Table 2: Industrial Property Applied for and Registered in the United States

(number of cases)

	Patents*		Trademarks	
	Applied	Registered	Applied	Registered
1970	106,295	70,131	33,807	21,974
1975	109,227	74,364	33,898	27,234
1980	112,315	61,227	52,149	14,614
1981	114,710	71,010	55,152	31,306
1982	124,800	65,152	73,621	39,025
1983	105,704	59,715	51,014	41,179
1984	117,985	72,149	61,480	45,475
Foreign	50,168	30,087	8,860	6,795
1985	125,931	75,302	64,677	63,122
Foreign	55,993	32,539	11,100	9,703
1986	131,403	76,993	69,253	48,971
Foreign	59,418	34,606	12,574	9,118
1987	137,173	88,793	70,002	47,522
Foreign	62,344	41,298	12,553	8,664

*Includes design, plant and reissue patents.

Source: U.S. Patent and Trademark Office is 20 years from the date of application, intellectual property can be both unprotected for many years and also have a shorter span of protection. In the period before a patent is granted, competitors can study and even use the patent application with relatively little fear of being caught and penalized. Once the patent is granted, enforcement of the owner's rights can be difficult. The Japanese preference for carefully negotiating disputes out of court, the judicial system's glacial pace, and the high costs associated with both actions can frustrate the aggressive and timely enforcement of patent rights. It is not that enforcement is unobtainable but rather that it often is moot by the time it is attained.

From the Japanese standpoint, the U.S. system also has some shortcomings:

- The U.S. patent system, as previously mentioned, does not recognize inventive activity that takes place outside the United States for the purposes of determining who was the first to invent. Since most of Japan's research and development work is done domestically, Japanese inventors are at a disadvantage compared to their American counterparts in filing for U.S. patent rights. Although the 1883 Convention of Paris for the Protection of Industrial Property grants inventors that file in one country a one-year grace period to file in other countries, the Japanese correctly can claim that the U.S. system discriminates against foreigners.

- The Japanese are uncomfortable with how the U.S. legal system handles patent suits. While U.S. laws and penalties are relatively clear, the authority of judges to set their own evidentiary criteria and impose sentences is quite broad. Moreover, U.S. district court judges, who are the first to hear patent suits, generally are not up to date on technology. While some Americans would argue that this ensures a fair case, ignorant justice is not the same as blind justice. In contrast, Japanese judges who handle IP cases, according to scholars in the field, usually have had some formal exposure to science and engineering. While this also is no guarantee of an informed and fair decision, it is somewhat more reassuring than the U.S. condition.

Semiconductor mask work - The importance and unusual nature of integrated circuits led the United States to develop a unique, or sui generis, form of protection. The design of an integrated circuit is intimately connected with its physical expression in the pattern of metal layers that make up a microchip. The template design used to imprint the metal patterns, called a mask work, does not qualify for copyright because it is not a work of authorship. Furthermore, it does not qualify for patent protection because it fails to meet the novelty and nonobviousness requirements. Nevertheless, Washington agreed that as an intellectual creation of great commercial value the template design should be protected.

Under the Semiconductor Chip Protection Act of 1984, protection exists for an original mask work fixed in a semiconductor chip by, or under the authority of, the owner of the mask work. But the mask work must be registered or commercially exploited somewhere in the world. In addition to exclusive rights for direct action, the owner can authorize others to: reproduce the mask work by optical, electronic or other means; import or distribute a semiconductor in which the mask work is embodied; and induce or knowingly cause another person to take either of the above actions. An original mask work is protected for 10 years from the date of registration or first commercial exploitation. Designers have two years from the date of first commercial use to register the mask work with PTO.

Included in the 1984 law are provisions that would deny protection to mask works developed overseas if foreign countries did not grant similar protection to U.S. chip designs within their jurisdictions. Conversely, the law allows PTO to grant temporary protection to foreign mask works provided steps are being taken in their country of origin to provide equivalent protection. Under this impetus, Tokyo eventually passed similar legislation in 1986 after obtaining a year of provisional coverage from PTO. European countries also followed the U.S. lead and enacted equivalent legislation.

Copyright - On paper the American and the Japanese copyright systems are practically identical. The scope of coverage is essentially the same (original works of authorship of most forms), the period of protection is the same (lifetime plus 50 years for individuals or 50 years from the date of grant for corporations), and the rights granted are the same (control over the performance and reproduction of the work regardless of media).

Where Japan falls down, in American eyes, is in the enforcement area. Enforcement in the printing and publishing industry is seen as satisfactory, while regulation in the areas of film and music is considered to be wanting. Audio and video recordings that are pirated (illegal copies of authorized works) or bootlegged (unauthorized releases or compilations of artistic works) are easily obtainable and, in fact, highly popular in Japan. There is little incentive for authorities to crack down because all Japanese parties benefit from the practice and the problem is relatively small in comparison to the sale of legitimate recordings.

It is also unheard-of to pay fees to copyright holders for public use of their work by third parties. Radio and television stations, for example, do not pay a fee every time they broadcast a copyrighted piece of music. Japan, however, is moving to remedy this particular abuse of international standards. The Copyright Council recommended January 28 that Japan sign the Rome Accord, which specifically protects the rights of performers and musicians in relation to radio and television broadcasts.

Trademark/service mark - Turning first to trademarks, U.S. and Japanese rules are generally similar and provide equivalent protection. Unlike the case of patents, both Japan and the United States employ a first-to-file rule. This country, however, observes a rule that protects internationally well-known but unregistered marks from registration or use by unauthorized local parties. Japan does not follow this guideline, resulting in cases such as Coca-Cola Co. fighting a tiny Japanese firm for the right to its famous name. This can happen more often than not in Japan, immune until relatively recently from widespread commercial penetration by U.S. firms. Thus, firms with well-established brand names trying to enter Japan's markets for the first time may find their labels already co-opted by a local product.

Beyond this relatively minor problem, the Japanese trademark system, in some respects, is better than the American one. Japanese trademark examiners, through computerization, have reduced the processing period from four to two years. U.S. examiners took nearly 13 months on average in 1987 to process a trademark application. Moreover, trademarks are treated more like property in Japan; they can be bought and sold like any asset. This is not the case in the United States. The rights to prevent others from using a registered trademark are strong and broad, almost too much so in the eyes of some foreign lawyers.

Service mark protection in Japan, on the other hand, currently is unavailable. This lack of explicit protection combined with a Japanese penchant for things exotic can present foreign service companies with some unique problems. The operators of Tokyo Disneyland, for example, had to go to court to force a "massage" parlor to stop using Disneyland in its name. American firms are not the only victims, however. Many European companies that rely on name cachet, such as Chanel, often find their name on everything from beauty parlors to restaurants. The increasing importance of the service industry has goaded the patent agency to act. It currently is building a database of service marks and hopes to begin registering marks by 1992. It is studying regulations around the world as it draws up standards for qualities such as originality and usage.

Trade secrets - This is another area where the United States is ahead of Japan. The Uniform Trade Secrets Act provides American companies with a measure of protection against industrial espionage and other forms of misappropriation of proprietary information. Japan has no such laws, perhaps explaining the country's uniformly shocked reaction to the 1982 arrest of several Japanese employees of Hitachi, Ltd. on charges of illegally obtaining confidential information about International Business Machines Corp.'s computers. The lack of any frame of reference led to wild speculation as to the true American motives behind the whole affair.

Tokyo has greeted recent U.S. attempts to promote international standards for trade secrets with a fair degree of nervousness. While avoiding a response to the charge that patent protection is becoming irrelevant in Japan because of extended processing times, Tokyo does feel justified in voicing its qualms about the impact of trade secret protection on the pace of global economic development.

If one were to look only at the written laws, one might not expect much friction between Japan and the United States over intellectual property rights, given the numerous similarities. On reviewing how each system operates, however, it is clear that the de facto situation adds varied shades of gray to the de jure situation. While some of the differences stem from simple problems, like a lack of manpower at the Japanese Patent Office, or from unavoidable causes, like the burden of translating English into Japanese and vice versa, other frictions reflect a fundamental difference in American and Japanese attitudes toward the basic concept of intellectual property.

A Matter of Attitude

The sine qua non of property is the concept of exclusionary rights. If you can prevent others from gaining access to something, you own it. This is the basis of the American approach to intellectual property and has become the standard against which Americans and Europeans measure all other systems. The concept requires all IP systems to recognize the exclusive rights of the grant holder and provide a system of effective injunctions to prevent unauthorized use of the protected asset. By this yardstick, Japan's system comes up short. In testimony before Congress, industry and academic witnesses point to two factors that cripple the Japanese system:

- Mandatory licensing rules - Under current Japanese patent law, if a company is granted a patent in an area designated as a "technology of national importance" by the Ministry of International Trade and Industry, other firms can petition MITI to force the patent holder to cross-license the desired technology. The fact that the government can coerce a patent holder to yield his right of control, even if it is under unusual circumstances, indicates a very different attitude toward intellectual "property."

Nearly all American observers share the opinion that the Japanese patent system encourages cross-licensing as a normal practice. The narrow scope of claim, the literal interpretation of content and the long opposition process effectively force patent holders to cross-license. Japanese business practice supports this contention. One reason many Japanese firms build up huge patent portfolios is to improve their bargaining position in cross-licensing negotiations, according to comments from several Japanese corporations.

- Lack of effective injunctive relief - Both during the patent application period and when it is in force, Japanese law provides protection that should enjoin an interloper from infringing on a patent. The reality is less than optimal. In the first place it is up to the patent applicant or holder to discover whether infringement is taking place, not a simple task for a foreign firm with a small presence in Japan. Proving infringement can be difficult because defendants are protected from full discovery. Plaintiffs cannot force a defendant to reveal exactly how a particular product was produced because Japanese law defends that information as proprietary even if the production process itself is the focus of the investigation. Plaintiffs must be convincing in showing how they deduced from the final product that infringement took place. Given the literal interpretation of patent content by Japanese officials, even a small change in the specifics may be enough to vindicate the defendant from infringement charges.

In addition, the length of time needed to process a patent combined with the time that can be taken up in postgrant oppositions can equal or exceed the length of patent protection. If injunctive relief is not effectively available and if the period of protection is consumed by the examination process, it is clear that the Japanese system again fails to provide exclusive rights to intellectual property owners.

From the Japanese perspective, there is nothing wrong with this approach. Japan places a premium on the right to use an idea and to build and advance on it. "The licensing of technology acts as a vehicle for the diffusion of technology through transfers and the creation of new technologies," according to Professor Toshifuni Hienuki of the Kanazawa University law faculty. The U.S. approach to intellectual property, he adds, "lacks adequate understanding of the social costs of intellectual property rights, such as increased prices for patented goods due to extensive limitations on the use of a given technology."

It should be very clear that Japan and the United States disagree on the correct balance between the rights of inventors and the rights of users. This difference in attitude undoubtedly arises in large part from the different cultural heritage of the two countries. This country's approach is a natural product of the European experience with its focus on individual rights, the rule of law and free market economics. Intellectual property law not only encourages innovation by preventing third parties from appropriating the benefits of an invention, but it converts knowledge and information into commodities that easily can be bought and sold.

Japan draws its attitudes toward intellectual property from China, where no one can claim exclusive right to an idea. It is a general principle in Asian societies that an idea cannot be controlled or withheld once it is made public. Imitation is the sincerest form of flattery, according to the Chinese view. This attitude was well entrenched in Japan before Western civilization made inroads there. From this standpoint conflict over intellectual property is not at all surprising.

A Matter of Advantage

Beyond cultural factors, there are a number of other reasons why each nation feels comfortable with its own particular system of intellectual property protection. Not only do these factors highlight the differences between Japan and the United States, they also point to potential roadblocks to solving frictions in this area.

Capacity for innovation - From the very start the American patent system was built on an assumption that the United States had a comparative advantage in innovation. The Constitution explicitly gave people the power "to secure limited, exclusive rights to the works of those whose creative genius both enriches and extends our lives." When the U.S. patent system was established in 1839, the framers adopted the first-to-invent standard -- a standard that no one else in the world follows today except the Philippines, where the United States had a hand in setting up the patent system. The U.S. economy was built on the backs and minds of inventive and resourceful people, hard at work competing with the established nations of Europe. In the 19th and 20th centuries Americans played a major role in nearly every field of scientific and industrial advancement. The first-to-invent system suited Americans' perception of comparative advantage in radical innovation.

Japan, on the other hand, always has borrowed heavily from foreign culture, science and technology. The first-to-file approach adopted there after studying the American and the German systems around 1900 fits with this tradition of borrowing since it treats incremental improvements the same as seminal advances. The first-to-file system compensates for Japan's perceived disadvantages in creativity.

Only the recent apparent shift in commercial advantage between the two nations has forced a reevaluation of these assumptions on both sides of the Pacific. A Japanese firm topped the list of patent grantees in the United States in 1986. This was the first time any foreign firm had attained that position. The shift in status quo became even clearer in 1987 when Japanese firms took the top three places. Japan long has accounted for the largest share of all patents granted to foreigners (see Table 3 and Table 4), while foreign firms consistently have won only a limited number of the total patents granted in Japan. Japan's emergence as the most formidable U.S. rival in many high technology areas has ignited a furious debate in Washington about how to restore this country's dominance. Washington's efforts to strengthen industrial property rules. one outgrowth of this debate, has led to an examination of the industrial structures of both countries.

Table 3: Overseas Patent Applications by Japanese

(number of cases)

	1980	1981	1982	1983	1984	1985	1986	1987
Patents	37,444	36,197	39,548	41,632	46,058	55,104	59,357	59,250
United States	11,928	11,971	14,195	15,960	18,030	22,633	24,604	23,992
Britain	5,115	4,423	4,341	4,047	4,039	3,796	3,625	3,143
France	3,079	2,494	2,246	2,252	2,187	1,98[illegible]	1,718	1,641
West Germany	4,765	4,319	4,195	3,831	4,086	4,06[illegible]	3,797	3,699
Australia	1,307	1,235	1,419	1,376	1,619	2,091	2,146	1,909
Italy	1,244	961	840	757	626	540	403	505
Utility Models	7,618	4,781	7,555	7,712	7,655	9,637	8,636	10,125
United States	2,524	1,573	2,771	2,708	2,828	3,759	3,610	3,739
Britain	1,138	536	861	916	798	873	714	829
France	639	312	529	507	426	496	403	473
West Germany	993	585	800	882	741	854	634	831
Australia	297	213	276	284	360	390	285	289
Italy	262	164	165	232	159	191	178	231
Designs	1,517	1,784	2,199	1,907	2,666	2,633	2,583	3,501
United States	394	457	610	581	787	911	828	972
Britain	256	317	456	382	490	503	518	746
France	84	119	140	97	121	82	95	201
West Germany	142	114	152	132	190	132	190	226
Trademarks	1,456	401	999	1,944	1,186	965	1,290	849
United States	206	65	78	287	109	139	174	153
Philippines	99	24	30	207	45	36	70	39
Canada	83	21	27	108	65	78	49	75

Source: Japanese Patent Office

Table 4: U.S. Patents Applied For and Granted* to Foreigners

(number of cases)

	1984		1985		1986		1987	
	Applied	Granted	Applied	Granted	Applied	Granted	Applied	Granted
Japan	18,289	11,355	21,699	12,783	23,491	13,644	25,022	17,140
West Germany	9,551	6,402	10,722	6,574	10,630	6,995	10,951	7,967
Britain	4,482	2,414	4,473	2,516	4,862	2,661	5,173	3,002
France	3,481	2,286	3,801	2,448	4,032	2,514	4,069	2,937
Canada	2,539	1,317	2,570	1,424	2,700	1,421	3,072	1,738
Switzerland	1,843	1,262	1,966	1,187	2,021	1,297	1,975	1,428
Italy	1,802	828	1,336	968	1,879	1,077	2,054	1,258
Sweden	1,408	792	1,429	929	1,407	1,023	1,311	1,093
Netherlands	1,227	749	1,336	786	1,350	819	1,410	967
Australia	738	348	874	396	946	424	1,030	496
Taiwan	733	116	917	165	1,136	250	1,297	388

*Includes design, plant and reissue patents.

Source: U.S. Patent and Trademark Office

Industrial structure - The differences in Japanese and American industrial structures have been examined closely for their trade and economic effects. Japan's industrial sector is centered around a relatively small number of major companies or industrial groups. American industry is much less concentrated as a general rule. These differences show up clearly when research and development spending patterns and sources of patent applications are examined.

In Japan the large companies that pour money into R&D are the source of most innovations and therefore patents. Flanking the firms' R&D are large patent staffs keyed to making the best use of the country's first-to-file system. An army of experts is an advantage in preparing the large number of patents mandated by a first-to-file system, in carefully surveying all patent applications for useful information, in preparing the many pregrant and postgrant oppositions or responses that are part of the system, and in managing often complex patent licensing negotiations. The cost of filing and defending a patent in Japan can be very high, as much as several hundreds of thousands of dollars, in addition to the cost of the specialized staff.

In the United States small companies are at least as important as big firms as a source of innovation and new products. Small firms led the charge in such important industries as microelectronics and biotechnology. The first-to-invent system gives small firms a more even footing with big companies in the race to gain patent protection. Furthermore, the U.S. system is relatively inexpensive; it costs an estimated $10,000 to secure a U.S. patent.

Each country's system therefore is suited to its industrial structure. Conversely, each country may be at a disadvantage when operating under the other's system. In practice, large Japanese firms have found it relatively easy to adapt to the American system. Their large number of applications and relatively high rate of success show that they have invested the time and the money to learn how to effectively attain patents. Small (and even large) American firms feel the Japanese system is costly and imposes heavy burdens on them. And, indeed, an objective analysis supports this perception.

This does not mean that the Japanese system is unfair or discriminatory, simply that it is different. It cannot be said that American companies as a rule have invested as much time and as many resources in learning how to effectively use the Japanese system as the Japanese have done here. Although the subject is hotly debated in the United States, many American analysts feel that foreign applicants in Japan could be more successful in securing patents by simply devoting the necessary resources to the task. At the same time, they stress the importance of increased staffing by the Japanese Patent Office. This still leaves the issue of the efficacy of a Japanese patent open to question, however.

The American Challenge

U.S. policy toward intellectual property has undergone something of a revolution. It no longer is low priority nor considered in a vacuum. Instead, Washington has linked the policy with trade and security issues, bringing it near the top of the American agenda. Japan, aware of the importance the United States attaches to the issue, is searching to balance its own needs with the U.S. demands and the concerns of developing countries. Washington, meanwhile, has upped the ante through a series of unilateral and multilateral steps:

Stronger domestic protection - To set an example for the rest of the world and to better defend American IP rights on home soil, Washington has taken several unilateral steps in the 1980s. The actions were not centrally coordinated but rather evolved as the American attitude against intellectual property piracy hardened.

- Judicial system - Prior to 1982 U.S. courts held a generally unfavorable view toward a plaintiff's claims of patent infringement. This was due mainly to a continuing concern with the antitrust implications of a patent's implicit monopoly. Congress created the Court of Appeals for the Federal Circuit in 1982 to deal with a backlog of patent cases that had developed in this hostile climate. It is not clear why, but the new appeals court frequently has backed patent holders. As a result, American business rekindled its interest in aggressively defending IP assets.

- Stronger laws - Congress also began acting directly to improve the quality of IP protection in the United States. In 1984 it approved the Semiconductor Chip Protection Act, which was renewed in 1987 for another four years. The legislation's reciprocity provisions have been highly effective in encouraging other countries, including Japan, to adopt similar protection. In addition, the Omnibus Trade and Competitiveness Act of 1988 greatly strengthened the quality of process patents in the United States. U.S. firms now can seek an injunction against imports of goods produced by unauthorized foreign use of an American process patent. The 1988 act also made it easier for American firms to obtain relief from imported goods that infringe patents, copyrights or trademarks since petitioners no longer have to prove injury to win an injunction from the International Trade Commission.

The ITC, however, faces a challenge to the basic legislation underpinning its authority to hear IP infringement cases with regard to foreign firms. The case began in 1985 when E.I. duPont de Nemours & Co. charged Akzo N.V. of the Netherlands with bringing into the United States aramid fibers that infringed on its patents. Using Section 337 of the 1930 Tariff Act, duPont petitioned the ITC for injunctive relief, which the commission granted after it agreed with duPont's charge. Akzo, reacting to the ban of its product from the U.S. market, presented the case to an ad hoc trade dispute panel of the General Agreement on Tariffs and Trade, which ruled February 1 that Section 337 discriminates against foreign companies by giving the ITC rather than the U.S. courts authority in patent disputes. Despite the ruling, the oft-used Section 337 seems likely to continue to be cited by U.S. firms seeking relief from IP piracy, especially since Congress amended the law in the 1988 trade act and is unlikely to rework its efforts to meet GATT suggestions.

Congress also approved an extensive revision of the U.S. trademark law in October 1988. In addition to lowering the cost of registering new trademarks and making it easier for trademark owners to sue competitors for false claims against their products, the changes grant a trademark applicant exclusive use of his trademark for three years before requiring any sales using that mark. Although the period of protection was reduced from 20 years to 10 years to make it easier for others to apply for trademarks no longer in use, the provisions allowing renewal of active trademarks remained.

- Patent office improvements - PTO has embarked on a program to computerize the examination process in an effort to further reduce the processing period. Although the program has encountered technical difficulties and criticism from outside observers, PTO is pushing ahead and should have most of its examination groups on-line by the mid-1990s. The White House also is trying to improve PTO performance in critical fields by mandating accelerated examinations. PTO officials report that the first designated category -- high-temperature superconductors -- has nearly 800 patents already placed on a fast track.

PTO is moving on its own to respond to the increasing importance of IP by widening its definitions of patentability. As noted earlier, PTO moved quickly to extend protection to biotechnology products in an effort to protect America's leading position in the field. Advancing into another important and untrod area, PTO has begun granting patents for mathematical algorithms, or methods of solving problems. While each application nominally is tied to hardware designed specifically to perform the algorithm, the equations themselves are an integral part of the patent.

The algorithm patents remain untested in court and are a point of some debate among patent lawyers. Since 1939 the Supreme Court has held that "scientific truth, or the mathematical expression of it, is not a patentable invention." Mathematical relationships, in particular, have been considered as preexisting in nature. Mathematicians simply uncover these relationships and therefore cannot own them. Since 1981 the court has fine-tuned its interpretation, saying that applications of scientific or mathematical principles may qualify for patent protection. Algorithms combined with powerful computers can confer decisive advantage in some business applications. Mathematicians worry that patenting algorithms will reduce the free exchange of ideas, while patent lawyers are concerned that IP chaos may erupt since all algorithms build on the work of many mathematicians. Nevertheless, the concerns underline the importance of PTO's continuing effort to protect new forms of IP in advance of the courts and lawmakers.

Trilateral patent harmonization - Since 1983 PTO, the European Patent Office and the Japanese Patent Office have been holding talks on harmonizing not only patent laws and examination standards but also examination procedures and new areas of patent protection. There are six major areas of discussion: the patentability of computer-related inventions, patent protection for biotechnology, defining the inventive step, standards for the unity of invention, disclosure requirements and administrative practices and procedures. Some major U.S. proposals include: elimination of deferred examination, elimination or restriction of compulsory licensing, requiring a reasonable scope for interpreting patent claims, eliminating pregrant oppositions, establishing a uniform international grace period, and permitting U.S. inventors to receive a filing date in Japan based on an English-language application.

The latest round of talks in October 1988 yielded agreement on two of the six major points: unity of invention and inventive step. Views on the other four areas still differ, with the gap being particularly wide with regard to the language used in applications and pregrant oppositions. The three sides are close to agreement on a uniform 20-year patent starting from the date of application and a one-year grace period between the inventive step and the application filing. All sides are preparing reports on the remaining four areas for an April meeting.

WIPO - These trilateral discussions also form the basis for discussion in the Club of 15, a core group for another multilateral forum, the World

Intellectual Property Organization. WIPO was founded in 1967 under the auspices of the United Nations as a forum for administering the two main international IP treaties, the Berne Convention for the Protection of Literary and Artistic Works and the Paris Convention mentioned earlier. The Berne Convention, adopted in 1886, deals mainly with copyrights, while the Paris Convention was promulgated in 1883 to handle patents and all other types of industrial property. Since 1984 WIPO has been seeking an international consensus on the following topics: a grace period between discovery and filing, the extension of process patent protection to the resulting product, the length and the scope of patents, the scope of claim interpretation, and first to file versus first to invent.

The U.S. position has been consistent: it would be willing to drop its first-to-invent system in exchange for a major strengthening of all IP protection. Washington particularly is interested in a uniform 20-year patent term patent availability for all types of goods and processes, and an adequate scope for patents. The United States strengthened its hand in the talks by finally becoming a signatory to the Berne Convention. President Reagan signed the necessary legislation October 31, 1988, saying the act would "secure the highest available level of international copyright protection."

The WIPO discussions have been deadlocked, however, due to wide differences between the views of developed and developing nations. Countries in earlier stages of industrialization view strong IP protection as a barrier to economic growth and social improvement. India, for example, does not grant patents for pharmaceuticals, on the rationale that it needs free access to modern drugs in order to raise its standard of living. The newly industrializing countries of Asia are concerned that advanced nations are trying to monopolize high technology. Thailand, for example, has just lost its benefits under this country's Generalized System of Preferences (duty-free treatment worth an estimated $168 million to the Thais) because Bangkok refused to strengthen its copyright and patent laws to suit American demands. Thai officials, while moving to meet some U.S. concerns, want their country "to stand on its own feet by producing competitive goods in world markets." Easy access to patented or copyrighted material may help.

In general, many developing countries see the United States as a bully, trying to hog everything for itself. Although their view of Japan is not as sharp, the level of trust with Japan has been historically low, particularly in Asian countries. Memories of World War II combined with current concerns over commercial exploitation underlie the skepticism.

Out of frustration with the stalled WIPO talks, the industrial nations formed the Club of 15, which includes the 12 European Community members, Liechtenstein, Japan and the United States. The club is drawing up a unified position on patent and copyright laws before the next WIPO meeting in June. Tokyo hopes to champion the concerns of developing countries in this forum. At a December 1988 meeting, Japan made three suggestions: uniform rules on the laying open of patent applications, rules giving applicants clear rights to prevent infringement or piracy by others while the application is pending, and limits on amending patent applications once they are filed. The proposals combine the views of developing and advanced nations. It is unclear if Tokyo's efforts to seek a middle position between the two blocs will succeed. Agreeing to major changes in its own practices, many of which are under attack, might improve its credibility and its influence in this forum.

Uruguay Round - The fourth round of multilateral trade negotiations under the aegis of the General Agreement on Tariffs and Trade opened at Punta del Este, Uruguay in September 1986. In addition to discussions on strengthening the GATT system, including services trade in the GATT framework, and dealing with agricultural subsidies (see JEI Report No. 22A, June 12, 1987), the 96 member countries agreed to an American request to put intellectual property rights on the agenda. Not surprisingly, the IP working group has been unable to agree even on the scope of discussion.

Following the December 1988 midterm review in Montreal, here is how the scorecard reads. The United States wants to put everything on the table except for location-of-origin rules and some design matters, while the European Community is willing to discuss everything. Japan is open to all subjects except trade secrets. The developing countries, however, generally are against discussing the entire subject. The views on enforcement of IP rights also differ. The Europeans see a need for a completely new enforcement mechanism, while the developing-country block feels that current GATT counterfeiting and piracy rules are adequate. The United States wants GATT members to adopt discovery procedures (the right of opposing parties to seek facts and testimony from each other) in order to aid detection and determination of infringement. Japan holds the opposite position that while some kind of infringement compensation is necessary, discovery procedures are not necessary.

It is not at all clear whether some kind of common ground can be found by the scheduled end of the Uruguay Round discussions in 1990. It is interesting to note that Japan's position does seem to lie between the advanced industrial nations and the developing countries. Whether this will put Tokyo between the proverbial rock and a hard place remains to be seen.

Bilateral talks - Not satisfied with the pace of progress in these multilateral forums, Washington cajoled Tokyo into putting the subject on the agenda of the U.S.-Japan Trade Committee, which meets regularly to discuss bilateral issues. The first session on patents, August 31 to September 2, 1988, broke no new ground. The American side complained about the Japanese practice of patent flooding, especially in new critical areas like high-temperature superconductors; the length of time it takes to obtain a patent in Japan; the short, six-month grace period used in Japan; and the lack of restraints on the practice of reverse engineering computer software (the creation of a functionally compatible program through close study of the original). For their part, the Japanese participants focused on the failure of the American system to recognize foreign inventive activity and on the potential for abusive use of Section 337 of the 1930 Tariff Act. These bilateral talks are unlikely to achieve results before the trilateral harmonization talks since the parties involved in the bilateral talks are not patent agency officials, yet the meetings serve as another means of keeping the subject in the minds of policymakers.

Japan Responds

The Japanese Patent Office has tried to deflect some of the barrage of complaints from the United States and Europe through administrative changes. In February 1986 Tokyo created a fast-track patent system that incorporates a version of the U.S. prior art requirement. While JPO claimed that this would reduce the examination period to between six and 12 months, it has not proved popular. Nor has JPO solved the problem of a massive backlog of applications. In January 1987 JPO altered its standards for scope of claim, allowing multiple claims in a single application. As mentioned above, it is still too early to tell if this has had any significant impact. JPO also is engaged in a computerization process broadly similar to the PTO's goal of conducting a paperless examination. While the Japanese seem to have encountered fewer problems, U.S. patent officials feel the move will be insufficient to significantly reduce Japan's pendency period.

With an eye toward the future, the Japanese government is looking into other changes. Budget officials may be more receptive to an increase in JPO staff thanks to booming government revenues and an easing of fiscal austerity. A big boost in manpower would go a long way toward reducing the patent application period and would give Japanese negotiators more credibility at the bargaining table. It is unknown if the proposed FY 1989 budget, which boasts a 3.3 percent rise in discretionary outlays, includes funding for new personnel.

The Ministry of International Trade and Industry has established a group within its Industrial Policy Research Institute to study issues such as ending compulsory patent licensing, introducing formal trade secrets legislation, and improving the availability of injunctive relief against infringement. A subject that is not being discussed is the decoupling of the patent agency from MITI. The ministry can rightly argue that the patent office's role is critical to its ability to advance economic development. Of course, this is exactly why foreign observers have suggested that JPO be made independent.

Foreign complaints about the lack of effective penalties for IP violations are one of the more difficult issues facing Tokyo. Although the Japanese and the German patent systems are nearly identical, U.S. companies do not complain much about patent problems in West Germany. In addition to the fact that U.S. firms have been operating in West Germany on a bigger scale and for a longer time than in Japan and are thus more familiar with business and application practices, the German court system is viewed as an effective source of relief should action become necessary. In contrast, the Japanese court system is viewed by many foreign companies as another problem instead of a solution. It is not that the Japanese courts are unfair but rather that the process is time consuming and difficult.

Conclusion

Unanswered in the debate over intellectual property is the question of whether any one approach to IP protection is optimal for all countries. In addition to problems posed by different cultural values and imperatives, differences in industrial structure and comparative advantage may make complete harmonization not only unlikely but unwise. A prime example is the furious debate over whether the United States should drop its first-to-invent system and adopt a first-to-file system. PTO officials and some large companies feel that such a shift would not be harmful if the rest of the world adopted other changes the United States desires. However, scholars point out that Japanese business has invested massive amounts of money and manpower into building an infrastructure that takes best advantage of a first-to-file system. Thus not only would large American businesses be forced to invest similar resources to compete but small U.S. businesses might be barred effectively from patent protection under a first-to-file rule. Adopting a first-to-file system could even worsen America's competitive position in the technology race according to this line of thinking.

While governments work on their end of the problem, the private sector is doing its part. According to MITI, 17 foreign research and development centers were in operation in Japan at the end of fiscal 1987 and another 17 were under construction. MITI reported that foreign firms were becoming increasingly involved with and integrated in Japanese industrial research circles. The importance of Japan as a research base is being recognized by more and more foreign firms. A greater foreign research presence in Japan should encourage foreign firms to invest the resources necessary for understanding the Japanese patent system, hopefully easing tensions. On the other side of the coin, Japanese firms also are expanding their overseas R&D activities by establishing their own research centers. (Japanese researchers have worked in existing foreign research centers for many years.) This growing integration of global research efforts should promote movement toward solving intellectual property frictions. With more to lose, all sides may be more willing to answer the question: whose idea is it, anyway?

For futher information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

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FY 1989 OUTLOOK FOR THE JAPANESE ECONOMY

Summary

Japan enters 1989 feeling remarkably optimistic about its economy. Domestically led demand continues to propel the economy forward, and the only real question seems to be at what rate will growth continue. On top of 5.2 percent inflation-adjusted growth in fiscal 1987, which ended March 31, 1988, and an expected 4.9 percent increase this fiscal year, Tokyo expects the economy to grow at a 4 percent clip in FY 1989, which begins April 1.

The government has few doubters in the private sector. In fact, many believe Tokyo is too pessimistic with its fiscal projections. However, in recent years, government and private forecasters almost always have varied from the eventual result in the same direction, suggesting both may be either too pessimistic or too optimistic. One source of surprise could be foreign demand, which has been relegated to virtual irrelevance in most forecasts.

The Economy in FY 1988

A year ago the focus was on the yen. The Japanese currency earlier had begun a sustained rise that, as the fiscal year began last April, showed few signs of slowing significantly. While the effect on the economy to that time had been less than expected, few felt confident that the fallout from the exchange rate realignments could be avoided indefinitely, especially, if, as some analysts suggested, the 100-yen dollar arrived by the end of FY 1988. It was as if the Japanese economy had sailed into uncharted waters that many feared were initially deceptively placid. A year later the waters have been charted, and most analysts are convinced that the feared storms are nowhere in sight. In fact, experts talk more and more about the merits of the yen's appreciation.

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In many ways FY 1988 has been a year of consolidation with few surprises. The currency market has stabilized with the yen close to its level of a year ago; the landmark 100-yen level seems further away than it did last year at this time. Black Monday in October 1987, which some feared could cause a downturn, particularly in the United States, is practically forgotten, especially in Tokyo, where the stock market repeatedly has set new records. While a year ago some analysts were worrying about the effects on demand in Japan of a massive wipeout of equity resulting from the October 1987 crash, a year later they are adding up the consequences of additional wealth on economic growth.

Internal developments proved even more favorable than external ones. Japanese firms confounded fears that they would be wary about investing in the domestic economy in light of the unsettling FY 1987 developments. Threatened by what were expected to be declining markets abroad for traditional exports, manufacturers increased capital spending to deal with the imperatives of supplying those markets with new products and in unaccustomed ways, including offshore production. Research and development expenditures went up for the same reason. Firms also retooled some of their capacity to meet a hoped-for pickup in domestic demand that would replace any loss of foreign markets. The year-to-year double-digit increase in spending for plant and equipment altered, more than expanded, productive capacity but became a significant source of aggregate income and, indirectly, a source of consumer demand as well.

In addition, firms and individuals discovered a terms-of-trade benefit from the yen's appreciation: falling import prices, which implied that a given volume of exports fetched more imports. While the actual drop in import prices at the consumer level was modest -- and very inadequate, according to some foreign and domestic critics -- consumers also benefited from a wider availability and a larger selection of products. The benefits of lower import prices spilled over to the whole economy as consumers and firms used some of their savings on imports to increase spending generally.

Kazuaki Harada, chief economist of Sanwa Bank, Ltd., sees a connection between the investment boom and the cheap yen. He argues that the yen's appreciation led to a drop in the cost of capital goods relative to the price of items produced with them. For example, widget-producing machinery may have dropped more than the price of widgets, making it worthwhile to buy the machinery. Since this experience was repeated in industry after industry, aggregate investment increased.

A year ago the government of Japan expected to play at most a small role in overall FY 1988 economic growth in contrast to its more activist participation in FY 1987. It has largely stuck to this course. The original projection of a 1.7 percent real rise in FY 1988 government spending has been revised to a 2.3 percent increase, still well below the estimated 4.9 percent growth rate of the economy overall. With government expenditures rising in line with expectations and overall growth higher than expected, the result has been smaller than anticipated government demand on the capital markets, helping to keep interest rates relatively low. Initially, Tokyo planned for 15.6 percent of the FY 1988 general account budget to be financed with bonds; it now puts this figure at

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12.9 percent. Interest-sensitive sectors, such as plant and equipment investment and private residential construction, have benefited, one reason why both are now more robust than was expected a year ago.

Low interest rates in Japan, strong demand in the United States and elsewhere and a comparatively stable yen all have interacted to keep exports higher and the current account surplus larger than expected. However, since exports have grown in volume less than imports, the external sector has been a drag on the economy for the third straight year. This means that domestic demand has had to be even stronger to accommodate the rising volume of imports.

Consumer spending, the largest component of gross national product, has expanded impressively during FY 1988, getting a substantial boost from strong demand elsewhere in the economy. Consumers with substantial stock or land holdings boosted their spending as the value of their property went up. For others, real wage hikes averaging more than 3 percent permitted expenditures to rise by about the same percentage. For the fiscal year consumer spending is likely to match the overall growth in GNP.

On balance these factors are likely to boost the growth rate for the year much higher than initially expected. For the fiscal year that began last April 1, the government originally anticipated a 3.8 percent inflation-adjusted expansion in GNP. With two quarters of GNP figures not yet released, the government now estimates that growth will average 4.9 percent. Even this estimate may be too pessimistic; few private analysts expect growth to be less than 5 percent. Assuming that growth in the September-December 1988 period was in line with previously released data and even hypothesizing zero growth in the January-March 1989 quarter, the FY 1988 outcome would reach about 5.2 percent, matching the FY 1987 rate.

Tokyo was closer to the mark in its outlook for the external sector than for the economy as a whole. In line with government assumptions, the yen has varied little from the level that prevailed at the time of the forecast last year. But, primarily because exports were larger than expected, the government now feels it was too optimistic in expecting a decline in the current account surplus to $72 billion from the $84.5 billion level of FY 1987. It now estimates that the FY 1988 surplus will be about $78 billion. Many economists outside the government believe Tokyo is still too optimistic; they estimate the current account will end up about $80 billion in surplus.

Japan's economic performance has been equally sparkling in comparison with that of its major trading partners. The United States, for example, gave analysts a pleasant surprise by recording 3.8 percent growth in calendar 1988, but Japan's GNP almost certainly grew faster, with most estimates between 5.4 percent and 6 percent for the calendar year. The Organization for Economic Cooperation and Development calculates that Japan's economy grew a real 5.75 percent in 1988, a rate that ranks first among the seven largest OECD countries and second only to Turkey among all 24 member nations.

Factors to Watch in FY 1989

Investment Demand - The most volatile component of GNP, private plant and equipment spending, makes up a substantial part of Japan's economy, coming to 21.4 percent of the total in the most recent GNP figures. It also will be important in the coming year to the extent that new investment leads to greater capacity that can prevent bottlenecks from slowing the economy's growth.

Surging domestic investment, if it continues, will affect the balance of payments because it will compete for capital with overseas borrowers. Unless domestic or foreign monetary officials intervene. the capital outflow will shrink and the current account surplus decline. Analysts at NRI & NCC Co., Ltd. believe that higher domestic investment was a significant factor in the drop in Japan's current account surplus through late 1988. Over the longer term, however, investment that enlarges the capacity of the economy results in a larger domestic savings flow, which could lead to a bigger surplus.

Recent data and surveys suggest that plant and equipment investment is likely to become even stronger, at least over the next few months. Orders from the private sector for machinery (except for ships and orders from the electric utility industry) soared 27.6 percent in November and 29.8 percent in December over year-earlier levels. Since analysts consider this statistic a good predictor of plant and equipment investment over the next half year, the outlook for investment in the first few months of FY 1989 is very positive.

Other surveys point to a similar conclusion. An Economic Planning Agency survey of 4,082 large firms finds them planning to hike investment spending substantially in the first six months of calendar 1989, which includes the first quarter of FY 1989. Its survey shows that the seasonally adjusted increase over the last six months of calendar 1988 comes to 8 percent with manufacturing leading the way with a 14.6 jump. Furthermore, the EPA survey finds, 15 percent of all firms judged their plant and equipment to be inadequate as of the last quarter of calendar 1988; a year earlier only 7 percent did. Conversely, those who felt they had excess capacity dropped from 15 percent in the last quarter of calendar 1987 to 10 percent in October-December 1988. These figures could mean that businesses are more serious about adding capacity -- in contrast to modifying existing plant and equipment -- than they have been in the past year.

Housing - In FY 1987 outlays for housing soared 25.6 percent after adjustment for price increases and were a major factor in getting the Japanese economy out of the high-yen doldrums. In FY 1988, as expected, housing expansion has slowed considerably. In the July-September 1988 period, the latest available statistics, spending for housing increased at a seasonally adjusted real 6.1 percent rate after dropping the previous quarter.

Some analysts point to housing as a prop under overall consumer demand. The theory, borrowed from analyses of the U.S. economy, is that new homeowners make significant purchases of consumer durables, such as furniture and large appliances, on moving into a new home. If true, Japan's economy could still be riding the waves of earlier double-digit surges in housing starts, but with fewer new houses in the pipeline this positive effect could be petering out. Others do not buy this argument, suggesting that Japanese houses, which are smaller and furnished differently than American homes, do not have the same effect in pulling up aggregate consumer demand.

Complicating the picture further is the difficulty of predicting which way housing starts will go. Analyses by NRI & NCC suggest that rising land prices, contrary to intuition, have stimulated housing starts in Japan. Reasoning that potential homeowners expect prices to keep rising, the analysts figure there is motivation to act earlier rather than later, especially since quicker action gives buyers the expectation of capital gains on their property. Rental housing construction starts also get a boost, according to NRI & NCC, because they are a good shelter from higher taxes, which are another result of higher land prices.

Of course, escalated land values have the potential to price houses out of the reach of would-be buyers. The combination of high but stable land prices could be deadly for housing demand. Potential buyers would have the burden of purchasing at a higher cost without the compensation of an expected capital gain.

Just such a result could be in the offing. Recent surveys suggest that land prices still are rising in Japan generally, although they are leveling off in Tokyo (see JEI Report No. 6B, February 10, 1989). If, as some suggest, rising prices elsewhere are little more than a ripple effect of the soaring prices in Tokyo during 1987, land prices could be about to stabilize nationwide at a much higher level than a few years ago, leading to the conclusion of fewer housing starts.

Housing shares a characteristic with plant and equipment that is potentially troubling. Both are long-lived assets. As interest rates or purchase costs fall, reducing the cost of owning either kind of asset, home buyers and firms increase their holdings to some optimal level. But costs need to keep falling to push this optimal level higher and to keep investment demand strong. Without this backdrop the stage is set for a dramatic decline in investments in new plant and equipment and in housing once pent-up demand is met.

Housing as well as plant and equipment investments grew slowly in the early 1980s, suggesting they were ready to boom once costs dropped. The 1987-88 pattern may represent catch-up demand that could be close to being satisfied, absent further drops in interest rates or other costs that would lead to an additional spurt.

Fiscal Policies and Tax Changes - Late in 1988 the Diet approved a sweeping tax reform proposal. In broad terms the reforms substitute a uniform 3 percent consumption tax for a wide variety of commodity taxes and for a small portion of income taxes. On balance the government calculates that the program nets out as a modest tax reduction of Y2.6 trillion ($20.8 billion at Y125=$1.00) in FY 1989, which should stimulate economic growth slightly between FY 1990 and FY 1993 (see JEI Report No. 3B, January 20, 1989). Depending on how much of the tax is passed through, NRI & NCC puts this effect at between 0.3 and 0.5 percentage point of GNP in FY 1989, on top of a 0.1 percentage point boost in FY 1988. Sumitomo Bank, Ltd. estimates the FY 1988 impact at 0.1 point of GNP and the FY 1989 effect at 0.2 point.

More significant than the macroeconomic impact may be the way the new tax affects individual economic decisions. Taxes on many big-ticket items will fall; those on other purchases may rise. In addition, since consumers became aware of the pending changes in early January, three months ahead of implementation, they appear to be timing their purchases to minimize the tax impact. Car sales dropped 2.9 percent in January 1989 over the same period a year earlier apparently because consumers were waiting for the coming cut in taxes on big cars. Clearly, if the car example is replicated elsewhere, manufacturers will have to scramble to get their production schedules and inventories properly adjusted.

The reforms also are expected to boost imports since many foreign products are the luxury items scheduled for big cuts. Tokyo puts the reduction in the current account surplus at a remarkable $5 billion annually, suggesting approximately a 6 percent decline from this cause alone.

Of course, for every item falling in price, several are expected to rise as a result of the new 3 percent tax. How much of the tax increase retailers will pass on is uncertain; the government's best guess is that consumer prices will jump an extra 1.1 percentage points in FY 1989 because of the tax changes. A February 1989 survey by the daily Nihon Keizai Shimbun of 10 major economic forecasters found that on average they were in agreement with the government, with the estimated tax impact on consumer prices ranging from 0.6 point set by Mitsui Bank, Ltd. to 1.5 points forecast by Mitsubishi Research Institute.

Apart from the tax reform, government policies should have little effect on the economy. The pending FY 1989 general account budget calls for a 6.6 percent aggregate spending increase over the initial FY 1988 level. The Fiscal Investment and Loan Program, which is financed largely by postal savings deposits, shows an even larger jump of 9 percent (see JEI Report No. 5B, February 3, 1989). But revenues will rise even faster, curtailing the reliance on government borrowing and reducing the fiscal stimulus that otherwise would result from such spending increases. To the extent it is successful, the government's fiscal stance will free up more savings for domestic private investment and overseas capital flows. Put differently, the effect of a smaller Japanese budget deficit is to reduce real interest rates, which makes borrowing more attractive for both Japanese and overseas investors.

Consumer Spending - Although cast in the role of heroes for saving Japan's economy from the ravages of currency appreciation, Japanese consumers actually have responded relatively passively during most of the past two years to increases in income that originated elsewhere in the economy. In all of FY 1987 and in FY 1988 through the latest available quarter, consumer spending increases have lagged slightly behind the growth of the economy as a whole.

Part of the explanation is that the economy -- and consumer spending -- grew faster than anticipated. With much higher incomes than expected it is no surprise that consumer spending went up significantly, even if the increase was not as great as in the rest of the economy. The result of relatively sluggish consumer spending has been that personal savings have been larger than expected, both in absolute terms and as a percentage of the economy. The swelling supply of savings, even though it has been accompanied by a rapid increase in investment demand, has complicated the task of reducing the flow of capital overseas and its mirror image, the current account imbalance.

External Demand - With all the excitement about domestic-led growth, one easily forgets how dependent Japan is on overseas economies, particularly that of the United States. While exports are less important than a few years ago and the share of Japanese exports going to the United States dropped to 33.8 percent in calendar 1988 after peaking in 1986 at 38.5 percent, the American market remains extremely important to Japan. Many economists typically assign the U.S. economic growth rate a prominent place among the variables affecting the Japanese economy. For example, Professor Heizo Takenaka of Osaka University argues that a 2 percentage point decline in U.S. GNP would lead to a 1 percentage point drop in Japanese GNP.

In the coming year, the influence of American demand may be asymmetrical, potentially stronger on the downside than on the upside. As their economy approaches full employment, Japanese exporters would have difficulty accommodating faster than expected growth in the United States. In other words, the increase in export shipments would be limited because the economy would have little room to expand to meet the hypothetical increase in aggregate demand. In this situation real GNP in Japan would be little affected. Slower than expected growth in the United States -- without compensating increases elsewhere in Japan or abroad for Japanese firms -- could lead to declining demand, fewer shipments to the United States, and a drop from the baseline rate of GNP growth on the order suggested by Professor Takenaka.

The Government's Outlook

Delayed by the acrimonious debate over tax reform, the government was slow this year in developing its FY 1989 economic outlook, which was released in late January rather than in late December. The government's figures are presented in Tables 1-3. Tokyo settled on a 4 percent real GNP growth rate for the coming year, down somewhat from the 4.9 percent it is now expecting for FY 1988. Even so, the government is more optimistic about the coming year than it was at the same point a year ago, when it expected 3.8 growth in FY 1988.

Tokyo clearly sees the economy evolving into a new phase, with consumer spending accounting for an increasing share of the momentum, rising a real 4.6 percent, substantially above the overall growth rate. Private plant and equipment investment still is expected to be important, although the rate of growth will slow some from the current fiscal year. Housing will remain in the doldrums. The projections suggest that external demand will pull down economic growth for the fourth straight year, and government purchases of goods and services will rise only modestly, contributing little to economic growth (see Table 4).

Other Forecasts

Private forecasters have been even further off than the government in their predictions of economic growth during fiscal 1988. On average they bet a year ago that growth would come in at 3.6 percent. As a measure of their own inaccuracy, they are now saying that growth will be closer to 5 percent (see Table 5).

For the second year in a row, the most optimistic preliminary forecast so far has proved the most accurate. This time the winner is Kangyo Kakumaru Research Institute, whose original forecast of 4.4 percent real growth for FY 1988 is likely to be at least half a percentage point too pessimistic. The Research Institute of the National Economy finishes second with an initial forecast of 4.3 percent growth after coming out on top the previous year. However, two years ago this ever-optimistic organization had the second worst record because, although nearly all groups overestimated growth, it did so by the widest margin. In short, FY 1987 and FY 1988 forecasts all were too low and FY 1986 forecasts were almost as inaccurate in the other direction. In each instance the initial government outlook varied from the actual or then expected outcome in the same direction as the overwhelming majority of private forecasters.

Generally, private forecasters are a little more optimistic concerning FY 1989 than Tokyo, expecting on average that growth will be about 4.3 percent during the coming year. The Research Institute on the National Economy,

Table 1: Government's FY 1989 Economic Outlook: Real Gross National Product

(percent change)

	Actual			Estimated	Projected
	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989
Real Gross National Product	4.5%	2.7%	5.2%	4.9%	4.0%
Consumer Spending	2.8	3.4	4.5	4.9	4.6
Residential Construction	2.8	11.0	25.6	2.1	-3.3
Private Capital Spending	13.2	4.3	10.0	15.9	9.2
Government Spending	-1.7	7.7	2.2	2.3	1.3

Table 2: Other Indicators

(percent change unless otherwise indicated)

	Actual			Estimated	Projected
	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989
Industrial Production	2.5%	-0.2%	5.8%	8.4%	5.5%
Wholesale Prices	-3.3	-9.4	-2.0	-0.8	0.9
Consumer Prices	1.9	0.0	0.5	0.7	2.0
Unemployed (in thousands)	1,580	1,710	1,700	1,550	1,500

Table 3: Japan's Balance of Payments

	Actual			Estimated	Projected
	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989
Dollars (billions)					
Current Account Surplus	$55.0	$94.1	$84.5	$78.0	$71.1
Trade Surplus	61.6	101.6	94.0	93.0	88.0
Yen (trillions)					
Current Account Surplus	Y12.1	Y15.1	Y11.7	Y9.9	Y8.7
Trade Surplus	13.5	16.2	13.0	11.8	10.9
Exports	39.8	33.8	32.2	33.6	35.7
Imports	26.2	17.5	19.2	21.8	24.8

Table 4: Components of Japan's Real Economic Growth

	Total Rate	Domestic		External Component
		Private	Public	
FY 1981	3.3%	1.5%	0.5%	1.2%
FY 1982	3.2	2.6	0.1	0.5
FY 1983	3.7	1.9	0.2	1.5
FY 1984	5.1	3.7	0.2	1.3
FY 1985	4.5	4.0	-0.3	0.8
FY 1986	2.7	2.8	1.3	-1.4
FY 1987	5.2	5.8	0.4	-1.0
FY 1988*	4.9	6.2	0.4	-1.6
FY 1989**	4.0	4.5	0.2	-0.7

*Calculated from government growth estimate.
**Calculated from government outlook.

which forecasts growth at 5 percent, is as upbeat as ever but not as confident as Sumitomo Trust & Banking Co., Ltd., which expects GNP to rise 5.1 percent in inflation-adjusted terms. The most pessimistic organization is Nippon Credit Bank, Ltd., which says growth will be only 3.4 percent in FY 1989.

The forecasts are almost unanimous in estimating that consumer spending will outpace GNP growth; only eight organizations out of 40 believe the opposite. Where they differ is on plant and equipment spending, for which Sumitomo Trust has the most optimistic forecast, 15.7 percent. The bank's estimate is hardly surprising considering it also has the highest GNP forecast. Conversely, Tokai Bank, Ltd. has the second-lowest guess concerning GNP and is the least optimistic about plant and equipment spending, coming in at only 5.8 percent. Clearly, much of the variation in the GNP estimates depends on differing views about investment spending.

Other factors appear to matter far less. Guesses as to the U.S. growth rate range between 2.3 and 3 percent, but this variation does not seem to matter. Those more optimistic about the United States are no more likely to predict high growth rates for the Japanese economy. Similarly, exchange rate and export projections have little influence on the GNP forecasts. In short, the forecasts lend some credence to -- if not persuasive evidence for -- the argument regarding the asymmetric influence of the U.S. and other foreign economies described earlier. The close to full-employment level of the Japanese economy would seem to imply that increased external demand could be met only at the cost of lesser demand elsewhere in the economy, with no effect on GNP overall. Unexpectedly low growth abroad, however, could have a negative impact.

In recent years both government and private forecasters as a group have overestimated about as often as they have underestimated economic growth. The close grouping of the forecasts around the average, however, has led the actual results to often lay outside the range of forecasts. FY 1989 could repeat this pattern; growth easily could surpass 5.1 percent, the most optimistic forecast, or sink under 3.4 percent, the least optimistic.

Fiscal year 1989 could be full of surprises capable of propelling the economy far in one direction or the other. Here is a sampling:

Table 5: Summary of Private Forecasts for FY 1989

(percent change unless otherwise indicated)

	Real GNP		Real	Real		Current	Y/$	
	Revised FY 1988	Initial FY 1989	Consumer Spending	Capital Spending	Consumer Prices	Account Surplus*	Exchange Rate	Oil Prices ($/barrel)
Banks								
Sumitomo Trust & Banking Co., Ltd.	5.2%	5.1%	4.8%	15.7%	0.5%	$71.8	Y129.3	$14.6
Bank of Tokyo, Ltd.	5.3	4.6	4.6	10.5	1.2	77.9	122.5	n.a.
Fuji Bank, Ltd.	5.1	4.6	5.5	9.2	1.2	72.0	115.0	14.0
Mitsubishi Trust & Banking Corp.	5.1	4.6	5.0	11.4	1.8	64.1	116.0	15.0
Saitama Bank, Ltd.	5.2	4.5	4.7	9.8	1.5	78.4	118.0	14.8
Taiyo Kobe Bank, Ltd.	5.3	4.5	4.3	9.2	1.1	74.4	117.0	15.5
Industrial Bank of Japan, Ltd.	5.7	4.4	4.8	11.1	2.5	73.8	120.0	14.5
Yasuda Trust & Banking Co., Ltd.	5.0	4.4	4.8	9.9	2.2	79.7	118.0	15.0
Dai-Ichi Kangyo Bank, Ltd.	5.2	4.3	4.7	10.5	2.1	69.4	115.0	13.0
Daiwa Bank, Ltd.	5.0	4.3	4.2	10.0	1.7	76.7	117.0	14.5
Mitsubishi Bank, Ltd.	5.1	4.3	4.2	9.2	2.2	80.0	120.0	14.0
Toyo Trust & Banking Co., Ltd.	5.1	4.1	4.2	9.1	2.2	86.2	115.0	14.0
Bank of Yokohama, Ltd.	4.8	4.0	5.0	8.5	0.3	82.4	113.8	14.0
Chuo Trust & Banking Co., Ltd.	4.8	4.0	3.6	8.2	0.9	65.8	123.2	16.0
Hokkaido Takushoku Bank, Ltd.	4.8	4.0	4.3	9.1	1.0	75.2	120.3	14.3
Mitsui Bank, Ltd.	4.9	3.9	4.0	8.4	1.5	68.5	121.9	16.1
Mitsui Trust & Banking Co., Ltd.	5.1	3.9	4.2	8.9	1.0	75.4	115.0	n.a.
Sumitomo Bank, Ltd.	4.8	3.8	4.4	8.8	1.6	71.0	120.0	13.5
Tokai Bank, Ltd.	5.2	3.5	5.0	5.8	1.0	65.0	110.0	n.a.
Nippon Credit Bank, Ltd.	4.8	3.4	4.5	6.9	2.9	72.9	120.0	14.8
Insurance Companies								
Asahi Mutual Life Insurance Co.	5.0	4.7	4.5	10.6	1.1	73.0	121.3	14.7
Sumitomo Life Insurance Co.	5.1	4.5	4.5	10.3	2.1	77.5	118.0	15.0
Tokio Marine & Fire Insurance Co., Ltd.	5.1	4.5	4.4	9.3	1.2	75.0	120.0	15.0
Dai-Ichi Mutual Life Insurance Co.	5.1	4.3	4.0	8.5	2.3	70.0	119.0	n.a.
Meiji Mutual Life Insurance Co.	5.1	4.2	4.5	8.6	1.8	76.5	117.4	15.8
Trading Companies								
Marubeni Corp.	5.3	4.5	4.8	10.4	2.6	79.9	120.0	15.0
Sumitomo Corp.	5.2	4.5	4.8	10.0	1.5	78.0	117.0	n.a.
Mitsubishi Corp.	5.2	4.4	4.6	10.6	1.8	74.0	120.0	15.5
Research Organizations								
Daiwa Securities Research Institute	5.1	5.0	5.2	8.7	0.6	68.8	123.3	13.3
Research Institute of the National Economy	5.3	5.0	5.0	11.5	2.0	70.3	117.3	16.0
Kangyo Kakumaru Research Institute	5.0	4.8	5.0	10.3	1.0	75.1	120.0	14.5
Kansai Economic Research Center	4.9	4.7	5.0	10.5	1.8	78.7	116.8	n.a.
NRI & NCC Co., Ltd.	5.0	4.6	5.0	10.5	1.2	73.3	120.0	14.0
Sanyo Investment Research	5.4	4.6	5.2	10.8	1.3	72.0	118.0	13.2
Cosmo Research Center	5.2	4.5	4.7	9.4	2.0	71.9	120.8	14.4
Okasan Economic Research Institute	5.1	4.5	4.9	10.0	2.1	76.1	118.0	14.0
Nikko Research Center	5.1	4.4	4.8	10.3	1.0	75.1	120.0	14.5
Japan Economic Research Center	4.7	4.3	4.8	10.1	2.1	84.0	114.0	n.a.
Mitsubishi Research Institute	5.1	4.1	4.0	8.6	0.9	73.3	117.0	15.7
Yamaichi Research Institute	5.0	3.7	3.8	12.6	2.0	82.0	117.0	13.1
Average Forecast	5.1	4.3	4.6	9.8	1.6	75.6	118.4	14.6

*In billions of dollars.

Source: Toyo Keizai, Tokei Geppo

- The super-optimistic scenario - If, in fact, the U.S. economy grows somewhat faster than experts predict, one result will be growing demand for Japanese exports. With new capacity in Japan possibly coming on-line faster than the government or private forecasters expect, this demand might be met rather easily. The rapid growth of plant and investment spending also will lead directly to increased domestic demand, pulling the whole economy to a higher level than the forecasters predict. This scenario would amount to a rerun of what has happened this year.

- The neutral but different scenario - For Japanese firms faster than expected foreign growth could be a fortunate development if domestic consumers do not play the role Japanese observers expect. In short, the Japanese economy will get a little help from abroad, enabling it to at least meet GNP growth projections once again, albeit in a different way than suggested by the government's and private organizations' numbers.

- The pessimistic scenario - In this scenario the yen-dollar exchange rate assumes more importance. In the United States and elsewhere policy adjustments could reduce real interest rates outside Japan, thus making the yen stronger and short-circuiting the hypothesized increase in demand for Japanese exports. And, if yen appreciation is coupled with a less than expected pickup in domestic demand, the projections could end up being too optimistic.

- The stock-adjustment scenario - One-shot adjustments to lower interest rates drove, in part, the housing boom and the flood of plant and equipment investment, with the latter also spurred on by new demand patterns and competition with rival firms. Once companies realize this -- aided in their understanding by looming extra capacity -- they may scale back their plans dramatically, thereby removing one of the locomotives pulling Japanese economic expansion. Therefore, GNP growth could stall, other factors being equal.

Conclusion

If recent history is any guide, the one certainty is that the future will be different than predicted. The Japanese economy seems to have the wind at its back. Strong foreign demand and surging investment demand, coupled with an accommodating Japanese consumer, could push growth even above the published guesses. But storms are equally possible in the new seas into which Japan has sailed. Professor Takenaka of Osaka University believes that export demand does not yet fully reflect the negative effects of past yen appreciation, while capital spending increases are a result of anticipated exchange rate changes. As a result, Japan is receiving all the normal benefits -- and then some -- of the strong yen without yet having to bear the full costs. In addition, he says, demand is being held up by an unsustainable increase in asset prices. If he is right, the Japanese economy could be in the lull before the storm. Everyone, including Americans on the other side of the shrinking Pacific, will have to just wait and see.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Japan's Real Gross National Product at Constant (1980) Prices

(in billions of yen, seasonally adjusted, quarterly totals and rates of growth at annual rates)

	FY 1986	FY 1987	October-December 1987	January-March 1988	April-June 1988	July-September 1988
Gross National Product	Y301,833.8 (2.7%)	Y317,589.4 (5.2%)	Y319,940.4 (7.1%)	Y327,750.6 (10.1%)	Y324,982.8 (-3.3%)	Y332,284.6 (9.3%)
Personal Consumption Spending	168,933.2 (3.4%)	176,575.8 (4.5%)	176,966.2 (3.8%)	180,839.0 (9.0%)	182,010.8 (2.6%)	184,581.3 (5.8%)
Private Residential Construction	15,634.1 (11.0%)	19,631.1 (25.6%)	21,144.4 (55.1%)	21,541.1 (7.7%)	19,632.3 (-30.3%)	20,874.8 (26.5%)
Private Fixed Nonresidential Investment	56,213.6 (4.3%)	61,812.5 (10.0%)	62,602.3 (15.7%)	65,130.8 (17.2%)	68,143.0 (19.8%)	71,116.1 (18.6%)
Change in Business Inventories	1,024.4 (*)	1,274.0 (*)	1,667.2 (*)	1,438.7 (*)	2,043.0 (*)	1,799.1 (*)
Government Current Expenditures	28,882.7 (6.3%)	28,637.2 (-0.9%)	28,570.8 (0.7%)	28,835.0 (3.8%)	28,990.9 (2.2%)	29,175.9 (2.6%)
Government Fixed Investment	22,247.0 (7.0%)	24,466.8 (10.0%)	24,825.7 (24.2%)	25,809.5 (16.8%)	25,189.5 (-9.3%)	24,735.9 (-7.0%)
Change in Government Inventories	856.4 (*)	45.3 (*)	-185.2 (*)	415.9 (*)	119.5 (*)	-225.9 (*)
Net External Sector	8,042.4 (-34.5%)	5,146.7 (-36.0%)	4,349.0 (-83.5%)	3,740.6 (-45.3%)	-1,196.2 (-99.0%)	227.4 (*)
Exports of Goods and Services and Factor Income Received	52,692.8 (-3.6%)	55,415.8 (5.2%)	55,666.1 (-1.4%)	57,573.7 (14.4%)	55,377.6 (-14.4%)	60,372.4 (41.3%)
Imports of Goods and Services and Factor Income Paid	44,650.5 (5.4%)	50,269.1 (12.6%)	51,317.1 (19.9%)	53,833.1 (21.1%)	56,573.8 (22.0%)	60,145.0 (27.7%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

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JEI REPORT

A Two-Part Report: A and B

NO. 9B
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House Panel Debates FSX Project

Japan's plan to coproduce with the United States a next-generation fighter support aircraft, FSX, again came under fire February 23 on Capitol Hill. Although the executive branch currently is in the midst of a three-week, interagency review of the bilateral accord -- due largely to criticism from Congress and certain administration policymakers that the longer-term economic implications of the project had not been assessed adequately -- congressional opponents appear bent on building a record that they hope ultimately will kill the deal. The FSX project, although defense-related, has become a lightning rod for a more widespread fear of declining U.S. competitiveness.

"This morning's hearing [is] on an innocent-sounding proposal that could be troubling as far as our long-range national security is concerned," stated Rep. James J. Florio, chairman of the House Energy and Commerce subcommittee on commerce, consumer protection and competitiveness. The New Jersey Democrat observed that while this would not be the first time the United States has worked closely with other nations, including Japan, on producing military aircraft,

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In a new coordinated effort, the government and the private sector will establish the Japan International Development Organization at the end of March. JAIDO will help recycle Japanese funds to Third World development projects. An aid initiative still in the planning stages is the Global Infrastructure Fund, which envisions a broad base of public and private resources from both Japan and the United States. The fund would focus on developing large infrastructure projects in the Third World.

Meanwhile, Tokyo announced in mid-February its recognition of the current Burmese government and its lifting of a ban on aid to Rangoon. Aid was suspended early last autumn after a coup in Burma resulted in government instability. Some aid previously committed to Rangoon will be disbursed now, but Tokyo has not yet decided about future appropriations to the troubled country.

Japan is showing its commitment to expanded international assistance not just in allocating extra money but in looking for new and more effective ways to implement aid programs. In addition to the new government and private sector initiatives, Tokyo is expressing an interest in taking on more responsibility within multilateral aid agencies, such as the International Monetary Fund and the World Bank. World Bank President Barber Conable indicated in mid-February that the major members of the bank would be receptive to a larger Japanese role. Those seeking aid at the emperor's funeral already may have given Tokyo their informal acknowledgement of its new clout.

Gretchen Green

Japan-China Update

After several years of sharp swings, Sino-Japanese relations seem to have reached a more mature balance that is enabling new mutual opportunities. Trade relations, in particular, have improved from the turbulence of the mid-1980s. Both sides have taken or are planning steps to improve the trade and investment atmosphere that is the bedrock of sound relations. The two Asian giants are taking advantage of the positive trade tone to expand political and foreign policy ties. If common ground can be developed, the China-Japan combination could be a potent force for peace and stability in all of Asia.

In the past two years trade across the Sea of Japan has settled down from its overheated state of the mid-1980s when Japanese exporters and Chinese importers took maximum advantage of Beijing's economic policy of opening to the West. Japan's exports to China more than doubled between 1983 and 1985, while imports rose "only" about 28 percent (see Table). The rapid expansion of exports tilted the bilateral trade balance strongly in Japan's favor -- so strongly that it became a point of tension. Steps by Beijing to restrict Japanese imports, the liberalization of Japanese markets and the rising value of the yen against the Chinese yuan played a large role in quickly righting the imbalance. Since mid-1988 several other developments with important trade implications have occurred:

- The Coordinating Committee for Multilateral Export Controls, a Western group that regulates the flow of high technology goods to communist countries, significantly relaxed its restrictions on exports to China in July 1988 in the following areas: general-purpose mainframe computers for commercial use, computers for medical use, personal computers, optical-fiber communications equipment (including semiconductor laser components), and two types of

Japan's Trade with China, 1984-88

(in millions and percent change)

a. in yen

	Exports		Imports		Balance	
Year	Value	Change	Value	Change	Value	Change
1984	Y1,720,803	47.4%	Y1,411,271	16.7%	Y309,532	*
1985	2,991,151	73.8	1,552,365	10.0	1,438,786	364.8%
1986	1,666,511	-44.3	965,839	-37.8	700,672	-51.3
1987	1,198,213	-28.1	1,075,383	11.3	122,830	-82.5
1988	1,213,908	1.3	1,263,452	17.5	-49,544	-140.3

b. in dollars

	Exports		Imports		Balance	
Year	Value	Change	Value	Change	Value	Change
1984	$7,216.7	46.9%	$5,957.6	17.1%	$1,259.1	*
1985	12,477.4	72.9	6,482.7	8.8	5,994.7	376.1%
1986	9,856.2	-21.0	5,652.4	-12.8	4,203.8	-29.9
1987	8,249.8	-16.3	7,401.4	30.9	848.4	-79.8
1988	9,475.7	14.9	9,852.8	33.1	-377.1	-144.4

*Meaningless.

Source: Japan Tariff Association

semiconductor production equipment. The relaxation reinvigorated bilateral trade that had been frozen by the fallout from the mid-1987 disclosure that Toshiba Machine Tool Co., Ltd. had exported defense-related equipment to the Soviet Union.

- Beginning in October Beijing cracked down on the multitude of tiny foreign trade corporations that focused on luxury goods or that conducted unethical trade practices, such as illegal monopolization or price gouging. These "briefcase" companies were competing fiercely for choice domestic export goods (spurring inflation) and bringing in imports that did not contribute to China's economic modernization program (wasting scarce foreign exchange reserves). These small operations also were an expression of government corruption in many cases. The crackdown will help restore order to China's foreign trade.

- Also in October Beijing pledged to give priority consideration to joint venture applications for the development of energy resources, telecommunications networks, ports and raw materials. Approval of joint ventures involving investments of less than $30 million will be a local government responsibility. Approval of larger ventures will remain a prerogative of the central government. The power to appoint a joint venture's directors was taken away from Chinese bureaucrats and given to the joint venture partners. In addition, rules were altered to drop the 50-year limit on the duration of joint ventures. The changes also are expected to halve the 90-day approval time.

Despite these improvements, Japanese firms still encounter barriers to expanding trade. Exports of many items, such as cars, consumer electronics and high technology equipment, remain restricted either by Beijing for balance of payments reasons or by Tokyo for security reasons. The yen's appreciation also has given American and European competitors an edge in the Chinese market. Many trading companies have shifted to promoting imports of Chinese goods to Japan only to run into another set of problems. China often cannot fulfill its end of an export contract because of raw material shortages, poor quality and transportation inadequacies.

Both Beijing and Tokyo hope a Sino-Japan investment protection pact also will lead eventually to greater bilateral trade. Under the August 1988 document Beijing agreed for the first time to provide national treatment in terms of labor and business regulations to Japanese investments. Although some Japanese businessmen remain skeptical about how the accord will be implemented, a string of investments has been announced by other Japanese companies since the signing. Mitsui & Co., Ltd. plans to set up a suit-making operation in Inner Mongolia; C. Itoh & Co., Ltd. opened at least two additional offices in China and plans others; Citizen Watch Co., Ltd. will produce watch parts in one of China's special economic zones; and Matsushita Electric Industrial Co., Ltd. will open a videocassette recorder plant in Beijing this spring. China's nascent aviation and space industries are other promising areas for Japanese investment.

Comparatively quiet trade relations have allowed Tokyo and Beijing to devote attention to other matters. The Japan-China 21st Century Committee, a joint advisory body, is becoming a forum for the relatively free exchange of viewpoints on sensitive issues, such as Japan's adherence to a "one-China" policy in dealing with Taiwan and its efforts to rewrite World War II histories in ways that many see as whitewashing Japanese aggression in China and other Asian countries. The sensitivity of this last issue was highlighted by a rapidly arranged meeting with Chinese Foreign Minister Qian Qichen after the funeral ceremony for the Showa Emperor. In the meeting Prime Minister Noboru Takeshita, who earlier had told the Diet that historians will be the judges of whether Japan acted aggressively in the war, clarified those remarks by acknowledging that on occasion Japan had been an aggressor.

Tokyo also is trying to find a solution to the problem of Chinese student immigration. Several hundred applications to study in Japan have been put on hold while Tokyo tries to develop ways to prevent visa violations by students who get full-time jobs in Japan. Chinese students complain that the delay is costing them lost enrollment fees or other financial hardships. There were nearly 13,000 Chinese students in Japan at the end of 1987. Tokyo is trying to deal with a tremendous upsurge in applications; nearly 36,000 were submitted last year from the Shanghai area alone. The Ministry of Justice has been cracking down on unauthorized foreign workers through tighter immigration controls and shows little sympathy to the student complaints.

Finally, there are signs that the two countries are trying to align themselves on regional foreign policy issues. In recent talks foreign ministers from both sides explored cooperative diplomacy aimed at defusing the Kampuchea situation. Tokyo expressed its support for the position taken by the Association of Southeast Asian Nations and Prince Norodom Sihanouk. Beijing responded by reiterating its willingness to talk with Prince Sihanouk and through him to ASEAN. Moreover, Beijing and Tokyo have taken note of rapprochement efforts between North Korea and South Korea with positive comments. Both countries also are discussing the Soviet Union's efforts to improve its relations with Asian nations.

Jon Choy

USTR To Review Telecommunications Trade Pacts With Japan

Japan is not off the hook on telecommunications trade with the United States despite the Bush administration's decision to tag the European Community and South Korea "priority" countries for negotiations to improve market opportunities for American suppliers of telecommunications equipment and services and for sanctions if these discussions fail. U.S. Trade Representative Carla Hills also announced February 21 that her office would review implementation of two telecommunications trade agreements with Japan, the primary target of the tough telecommunications provisions of the 1988 Omnibus Trade and Competitiveness Act. Ironically, being put on the review list is not necessarily the lesser of two evils for Japan.

The European Community and South Korea, selected from a list of eight second-round candidates for priority status, have a year from March 23 to remove barriers to U.S. exports of telecommunications products and services. In West Germany and France, reportedly the two EC member countries of top concern to administration trade officials, these barriers include buy-national government procurement policies, discriminatory technical standards, closed-door standards-setting procedures, limits on the provision of value-added services and restrictions on foreign investment. U.S. trade negotiators will be zeroing in on the same barriers plus high tariffs in their talks with South Korea.

If the negotiations with Bonn, Paris and Seoul appear to be making substantial headway, the talks can be extended for two more years. At the end of that time Washington must decide whether the American telecommunications industry has gained roughly the same access to the markets of West Germany, France and South Korea as suppliers in those countries have to the U.S. market. If the answer is no, the president has the option of retaliating in order to win market access reciprocity for U.S. companies providing telecommunications equipment and services.

The Japan review is on a faster, potentially more dangerous track. By April 30 USTR must determine whether Japan has followed through on the extensive policy and regulatory changes it agreed to make during the 1985 MOSS (market-oriented, sector-selective) negotiations to ensure nondiscriminatory treatment of foreign companies in the deregulated domestic market for telecommunications products and services and whether Nippon Telegraph and Telephone Corp. has made good on its twice-renewed 1981 pledge to open its procurement process to foreign competition. The short deadline for assessing the effectiveness of these two market opening arrangements is an outgrowth of another requirement of the 1988 trade act -- that USTR review existing telecommunications trade agreements as part of its annual inventory of foreign trade barriers, due this year by April 30.

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JAPAN'S DISTRIBUTION SYSTEM: THE NEXT MAJOR TRADE CONFRONTATION?

Summary

Is Japan's distribution system the ultimate barrier to U.S. exports of manufactured products, particularly consumer goods? Former Secretary of Commerce C. William Verity certainly is not alone in suggesting this possibility. A number of legislators involved in drafting the 1988 Omnibus Trade and Competitiveness Act think the complicated Japanese distribution system is an ideal candidate for a Super 301 probe. Even the Japanese government acknowledges that the wholesale and the retail sectors need to be reformed to facilitate economic restructuring and trim the high cost of living.

Japan's complex distribution system unquestionably is a major deterrent for American manufacturers trying to crack the market, but their problems are not unique: the network discriminates against all market newcomers, domestic as well as foreign. More important, economic forces are starting to reshape the wholesale-retail structure and how the system operates. While these changes are occurring too slowly to mollify frustrated American legislators and economic policymakers, challenging the system through a trade complaint will not accelerate the process significantly because restrictive government policies are only part of the problem.

U.S. Manufacturers Still Fighting Uphill Battle

The value of the dollar has dropped almost 50 percent against the yen since September 1985. On paper a realignment of this magnitude should boost

Japanese consumer and business demand for a wide variety of now more competitively priced American manufactured products while buoying industry's already big purchases of U.S.-produced agricultural and industrial inputs. Much to the disappointment of trade officials and businessmen, however, Japan-bound exports have followed only the broad outlines of this script.

By any measure the growth in Japan's imports of manufactured products since 1985 is nothing short of spectacular. In the space of just three years purchases more than doubled, jumping from $36.4 billion to an estimated $85.5 billion in 1988 (see Table 1). In the process the closely tracked relationship between manufactures and total imports climbed from 28.1 percent to 45.6 percent. But what is a definite public relations plus for Japan elsewhere is greeted less enthusiastically in the United States for the simple reason that products marked Made in USA have not benefited fully from the upsurge in offshore purchases of manufactured products.

Table 1: Japan's Imports of Manufactured Products, 1980 and 1985-88

(in millions of dollars, c.i.f. value)

	1980	1985	1986	1987	1988*
Chemicals	$6,202	$8,072	$9,733	$11,845	$13,486
Manufactured Goods Classified by Material	10,579	10,886	12,390	18,055	24,980
Machinery and Transport Equipment	8,756	11,106	13,283	17,264	22,456
Miscellaneous Manufactures	5,031	6,349	8,634	13,396	17,030
Manufactured Imports	30,568	36,413	44,040	60,560	77,952
Total Imports	140,528	129,539	126,408	149,515	171,041
Manufactures/Total Imports	21.8%	28.1%	34.8%	40.5%	45.6%
Reference: United States					
Manufactured Imports	$131,373	$258,225	$293,823	$325,245	$361,614
Total Imports	252,804	361,626	387,082	424,082	459,565
Manufactures/Total Imports	52.0%	71.4%	75.9%	76.7%	78.7%

*January-November only for Japan.

Source: Japan Tariff Association, The Summary Report: Trade of Japan and U.S. Department of Commerce, Highlights of U.S. Export and Import Trade.

The increase in Japan's imports of capital goods from the United States, while not as great as might be expected, falls within the acceptable range given that price is just one of several key variables weighed in corporate buying

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decisions. More troubling is the relatively poor performance of American-made consumer goods. Already behind when the dollar started to weaken, U.S. consumer nondurables and especially durables have lost ground in the Japanese market to competing products from Europe and Southeast Asia (see Table 2). Admittedly, consumer goods are the weak point of American industry. They do not have the cachet of European imports ranging from cars to clothing, which have soared in line with the spending boom in Japan on luxuries. Nor can the United States match Southeast Asia's costs for labor-intensive goods like clothing, the main product behind the 3.5-fold surge in Japanese consumer goods imports since 1985.

Table 2: Japan's Imports of Capital and Consumer Goods, 1980 and 1985-88

(in millions of dollars, c.i.f. value)

	1980	1985	1986	1987	January-November 1988
Capital Goods	$9,096	$11,541	$13,229	$16,328	$20,332
United States	4,888	7,504	7,785	9,025	11,203
European Community	2,247	1,845	2,763	3,606	4,091
Southeast Asia	790	1,179	1,473	2,313	3,294
Consumer Nondurables	2,677	3,319	4,711	7,718	9,814
United States	322	314	403	857	1,091
European Community	697	692	1,008	1,400	1,777
Southeast Asia	1,167	1,574	2,368	4,093	5,074
Consumer Durables	2,395	2,974	4,601	7,977	10,725
United States	561	590	740	1,086	1,522
European Community	855	1,105	1,949	3,575	4,774
Southeast Asia	672	873	1,393	2,538	3,440

Source: Japan Tariff Association, The Summary Report: Trade of Japan.

Even after factoring in these competitive drawbacks, U.S. government officials and industry executives still are baffled by the relatively slow expansion of American consumer goods exports to Japan. In an earlier period they would have blamed tariffs, quotas, standards, testing and certification procedures for negating a large part of the benefits of a weaker dollar. But Japan's tariffs on manufactured products average less than those in the United States and Europe; it has no quantitative restrictions on consumer goods; and standards, testing and certification procedures, while a continuing problem for some imports, are much less of a factor than before 1985. Japan's buy-national psychology -- the traditional fallback explanation -- also carries much less weight. It cannot be discounted entirely, but consumer attitudes toward foreign products are changing as result of the appreciating yen.

Analysts today are more likely to fault American producers and Japanese importers for not passing through the full benefits of the declining dollar. Some U.S. suppliers no doubt saw the exchange rate realignment as a chance to raise prices and rebuild profit margins battered in the first half of the 1980s by the strong dollar and the recession at the start of the decade. Equally true, some Japanese importers unquestionably siphoned off part of the dollar's drop as windfall profits. Nevertheless, studies on both sides of the Pacific indicate that these practices at best provide only a partial explanation of the comparatively weak showing of American consumer goods in Japan since the fall of 1985.

That leaves an old standby -- Japan's distribution system. The multilayered, inefficient wholesale-retail network falls outside the usual definition of a trade barrier in that it is not designed to block or restrict competition from abroad. From Washington's perspective, though, it makes no difference whether the problems confronting American consumer goods suppliers in Japan are the intentional result of government and private-sector actions or a byproduct of the system's operation. Neither does it matter that Japanese companies new to the market have similar difficulties. The bottom line is that the current distribution system limits the availability of consumer durables and nondurables from the United States and jacks up the prices of those products that do make it onto store shelves.

An Economic Laggard

Multilayered, complex, high-cost, inefficient. That is just a sampling of the critical adjectives invariably used by U.S. government officials, businessmen and journalists to describe Japan's wholesale and retail industries. A glance at any list of distribution-sector indicators for Japan and the United States underscores the fact that, here at least, American perceptions of the Japanese economy match the realities.

For starters, Japan, with only half the population of the United States, has roughly 5 percent more retail outlets (see Table 3). A majority of these 1.6 million shops (57.7 percent at the time of the 1985 commercial census) has only one or two workers. Conversely, just 2,000-plus stores, generally affiliated with department store or supermarket chains, employ 100 or more people. While large operations generate a greater proportion of retail sales than all the mom-and-pop shops combined (14.6 percent versus 12.7 percent in 1985), their share of total turnover falls far short of the comparable number for big American retailers. In the United States multiunit operators account for well over 50 percent of the retail business and more than half of that volume comes from stores employing over 100 workers.

A correspondingly large number of wholesale establishments is needed to supply the maze of retail shops (see Table 4). Three-fourths of these 413,000 or so units are small, employing fewer than 10 workers. Their share of total sales is equally limited, perhaps one-sixth. At the same time, the 2,700-plus establishments with more than 100 employees account for about two-fifths of wholesale turnover. But this ratio and the underlying high average sales figure are misleading indicators of concentration in the wholesale industry since the numbers are skewed by the sales results for Mitsui & Co., Ltd., Mitsubishi Corp. and Japan's other huge trading companies. Outside of these firms, few Japanese wholesale establishments have annual sales of more than $1 million. In the United States probably half of all wholesale locations do at least this much business each year.

Table 3: Comparison of Retail Industries in Japan and the United States[1]

	Japan	United States
Number of Retail Outlets	1,628,644 (1985)	1,541,500 (1982)
Retail Outlet/Wholesale Establishment Ratio	3.94 (1985)	3.71 (1982)
Number of Employees	6,329,000 (1985)	9,802,000 (1982)
	n.a. (1988)	12,846,000 (1988)
Number of Employees per Outlet	3.9 (1985)	6.4 (1982)
Population per Retail Employee	19.1 (1985)	23.7 (1982)
	n.a. (1988)	19.2 (1988)
Annual Sales (millions of dollars[2])	$426,423 (1985)	$961,325 (1982)
	$891,682 (1988)	$1,454,608 (1988)
Annual Sales per Outlet[2]	$261,827 (1985)	$623,630 (1982)
Annual Sales per Employee[2]	$67,376 (1985)	$98,074 (1982)
	n.a. (1988)	$148,399 (1988)
Annual Sales per Square Foot of Selling Space[2]	$600 (1985)	n.a. (1982)
Per Capita Sales[2]	$3,523 (1985)	$4,134 (1982)
	$7,262 (1988)	$5,910 (1988)
Sales/Inventory Ratio	10.3 (1985)	7.9 (1985)
	n.a. (1988)	7.3 (1988)

[1] The 1988 data are not directly comparable with the figures for 1985 (Japan) and 1982 (United States), which are census years. Excludes eating and drinking establishments in both countries.

[2] The 1985 yen figures were converted at the year's average exchange rate of Y238.54=$1.00; the comparable conversion factor for 1988 was Y128.15=$1.00.

Source: Japan, Management and Coordination Agency, Japan Statistical Yearbook and Monthly Statistics of Japan; U.S. Department of Commerce, Statistical Abstract of the United States and Survey of Current Business.

What really differentiates Japan's distribution system from its American counterpart, however, are the multiple tiers of wholesalers. In this country manufactured products move through a single layer of wholesalers at most, generally merchant wholesalers that sort, assemble, grade and store the goods for resale to retailers and commercial and institutional customers. An estimated 30 percent of the U.S. manufacturing sector's output bypasses the wholesale industry entirely, going directly to retail outlets. In Japan merchandise as a rule passes through more than one wholesaler on its way from the factory to the consumer. Although these resales normally are just paper transactions, each wholesale level adds its own markup to the product. That practice explains why the wholesale/retail turnover ratio in Japan consistently is double the comparable U.S. figure.

Although American analysts zero in on the inherent inefficiencies of Japan's wholesale-retail trade structure, the complex distribution system represents a rational response to domestic economic realities. An extensive network of neighborhood stores, for example, is not just a convenience for Japan's primarily urban population; it is more like a necessity. The traffic congestion and limited parking facilities in major metropolitan areas, the limited amount

Table 4: Comparison of Wholesale Industries in Japan and the United States[1]

	Japan	United States
Number of Wholesale Establishments	413,016 (1985)	415,800 (1982)
Number of Employees	3,998,000 (1985)	4,985,000 (1982)
	n.a. (1988)	6,156,000 (1988)
Number of Employees per Establishment	9.7 (1985)	12.0 (1982)
Population per Wholesale Employee	30.3 (1985)	46.6 (1982)
	n.a. (1988)	40.0 (1988)
Annual Sales (millions of dollars[2])	$1,795,468 (1985)	$1,997,895 (1982)
	$3,502,154 (1988)	$2,729,000[3] (1988)
Annual Sales per Establishment[2]	$4,347,380 (1985)	$4,804,942 (1982)
Annual Sales per Employee[2]	$449,092 (1985)	$400,781 (1982)
	n.a. (1988)	$443,307 (1988)
Wholesale/Retail Turnover Ratio	4.21 (1985)	2.08 (1982)
	3.93 (1988)	1.88 (1988)

[1] The 1988 data are not directly comparable with the figures for 1985 (Japan) and 1982 (United States), which are census years.

[2] The 1985 yen figures were converted at the year's average exchange rate of Y238.54=$1.00; the comparable conversion factor for 1988 was Y128.15=$1.00.

[3] Estimated using actual sales by merchant wholesalers in 1988 ($1,637.4 million) and the assumption that merchant wholesalers generate 60 percent of total wholesale turnover.

Source: Japan, Management and Coordination Agency, Japan Statistical Yearbook and Monthly Statistics of Japan; U.S. Department of Commerce, Statistical Abstract of the United States and Survey of Current Business.

of storage space in most homes,-the Japanese penchant for fresh fish and produce and the premium placed on personalized service all encourage consumers to patronize nearby shops.

These also are logical reasons for the small size of most stores. The high cost of real estate in big cities and the generally limited fixed and working capital of retailers are the obvious ones, but they are not the only size constraints. The sole proprietors that operate the vast majority of Japan's retail outlets often lack a formal business background and consequently do not have the managerial and marketing know-how to run a larger store. Finding enough workers in the increasingly tight Japanese labor market is another complication.

Similarly, the multitiered organization of Japan's wholesale industry is an outgrowth of the problems of supplying the enormous number of small retail outlets. Local wholesalers handle the frequent, small-lot deliveries that mom-and-pop stores require because of their limited storage area. They are supplied in turn by larger regional or national distributors that negotiate directly with manufacturers. But wholesalers do more than ensure a steady flow of merchandise from manufacturers to retailers. They supply credit and long-term financing to their customers, provide management and marketing assistance and take back unsold goods. Wholesalers, in short, assume much of the normal risk involved in retailing.

Small and midsized wholesalers obviously could not take on this pivotal function without the backing of big distributors. They in turn look to particular manufacturers for support, completing the web of dependency that ties the bottom of the distribution chain to the very top and simultaneously puts manufacturers in a position to control the brands stocked by neighborhood retailers and the prices charged. To some analysts this relationship, rather than the complex nature of the distribution system, is what makes it hard for foreign suppliers and domestic newcomers alike to break into the Japanese market.

Winds of Change

Although not immediately obvious to outsiders, Japan's distribution system is moving in the direction of greater efficiency. Retail outlets and wholesale establishments both peaked in number in 1982 and were down 5.4 percent and 3.7 percent, respectively, at the time of the 1985 census of commerce. Not surprisingly, the main casualties were sole proprietorships, especially mom-and-pop stores and wholesale locations with fewer than 10 employees. About 96,000 of the 1,036,000 mom-and-pop shops in operation in 1982 were out of business three years later -- a contraction that trimmed the proportion of retail stores run by sole proprietors from 74.7 percent of the total to 72.4 percent but that also produced the first postwar decline in the retail floor space number.

The 1988 commercial census, due out at the end of March, is expected to show some additional consolidation in both the wholesale and the retail sectors. Although retail industry analysts doubt that the drop in the overall number of stores will be as large as the 1983-85 decline, they say the figure for mom-and-pop shops will be down again by a significant margin. Part of this attrition is an inevitable result of the increasing age of many store operators who went into business during the boom years of the 1960s and 1970s. Nevertheless, economic forces clearly are ripping holes in the safety net distributors provide for retailers.

Soaring land prices in commercial districts are one obvious cause of the hard times rocking small retailers, but the same factors that reshaped the retail landscape in the United States -- increasing competition from larger outlets as well as from newer types of merchandisers and changing consumer attitudes toward the trade-off between personalized service and lower prices -- are at work in Japan. The most direct challenge to mom-and-pop stores, especially the huge number selling food, has come from franchise chains of convenience stores and minisupermarkets with their centralized purchasing, inventory control and accounting. Paced by industry leader 7-11, the 13,450 convenience stores surveyed by Nihon Keizai Shimbun increased their sales 17.5 percent during FY 1987 to Y1.8 trillion ($12.8 billion at FY 1987's average exchange rate of Y138.35) and 6,574 minisupermarket outlets upped their volume 3 percent to nearly Y1.2 trillion ($8.4 billion). The combined figure was equivalent to perhaps one-fourth the business done by mom-and-pop shops that year, but it was generated by roughly 98 percent fewer stores.

Small retailers also are losing customers to discount outlets. Like convenience stores, many discount stores are not much bigger than Japan's traditional small shops, yet their independent distribution networks give them a big pricing edge. Japanese consumers, moreover, are discovering the advantages of catalog shopping, which offers not only convenience but greater selection and lower prices. According to another Nikkei survey, the mail order business expanded 13 percent in the April 1987-March 1988 period to more than Y1.2 trillion ($8.9 billion). While hard aggregate numbers are lacking, retail sales watchers say specialty chains -- particularly ones handling men's and women's clothing, shoes and consumer electronics -- also are doing better than the overall industry.

Not unexpectedly, department stores, supermarkets and superstores (hybrid supermarket-discount stores) and other big retail operations are gaining business at the expense of small retailers. What perhaps is astonishing is the slow pace of the process. Between 1980 and 1988 department stores upped their share of total retail sales by only 1 percentage point to 8.4 percent. Supermarkets and other large self-service stores had even more trouble expanding their market inroads, which merely rose from 6.5 percent to 7.3 percent.

But these limited gains are not at all surprising against the backdrop of another set of statistics. Over the 1980-88 period the number of department stores in Japan increased from 325 to just 371. Even more incredibly, only 11 have been added to the total in the last four years (see Table 5). Equally hard to believe, the tally of other big self-service stores, after jumping by 200 to 1,913 in the first half of the 1980s, has expanded by a slim 62 units since the end of 1984.

To most analysts this situation is the direct result of a 1974 law that has been used to blunt the competitive threat of big retailers to small store operators. On paper the legislation, dubbed the Large Retail Store Law, is fairly innocuous. As originally drafted the measure merely required companies planning to build stores with a sales floor space of more than 1,500 square meters (16,146 square feet) to notify the Ministry of International Trade and Industry. In 1979 the reporting threshold was lowered to 500 square meters (5,382 square feet) and prefectural governments were given the right to review plans to open stores of this size up to 1,500 square meters. Whether intended or not, these changes gave local merchants a major say on the expansion of department stores and supermarkets. They could not veto a new store, but they could delay its opening time and again by arguing over such matters as the operating hours, the merchandise sold to be and the sales floor space. Similarly, MITI would not sign off on a large store opening without the go-ahead from local interests.

The 1979 procedural amendments obviously played havoc with the plans of department store and supermarket chains, but their current expansion problems date back to the early 1980s. Having already convinced numerous local governments to declare a moratorium on the opening of big stores, small retailers traded on their support for the Liberal Democratic Party and persuaded MITI in February 1982 to tighten implementation of the Large Retail Store Law. The ministry established new guidelines governing the size of stores that could be opened in cities of varying population and beefed up the consultative role of localities on the opening of big retail operations. MITI also started to use administrative guidance to slow the spread of supermarket chains.

While the MITI crackdown gave many small retailers an extended lease on business, other factors -- some perverse -- also have been working in their favor. For example, the sluggish rise in Japanese retail sales since 1980 would

Table 5: Large Retail Stores in Japan, 1980 and 1985-88*

Department Stores

Year	Yearend Number of Stores	Yearend Sales Floor Space (1,000 sq. meters)	Yearend Employment (1,000)	Value of Sales** (billion yen)	Distribution of Sales				
					Clothing	Food and Beverages	Furniture	Appliances	Other Housewares
1980	325	5,409	168	Y6,501	49.0%	20.5%	5.7%	1.4%	5.0%
1985	360	6,201	170	7,982	49.3	21.5	5.1	1.5	4.7
1986	365	6,310	170	8,416	49.5	21.6	4.8	1.4	4.6
1987	368	6,414	171	8,879	49.7	21.5	4.7	1.5	4.5
1988	371	6,563	176	9,552	49.5	21.2	4.8	1.4	4.4

Other Large Self-Service Stores

Year	Yearend Number of Stores	Yearend Sales Floor Space (1,000 sq. meters)	Yearend Employment (1,000)	Value of Sales** (billion yen)	Distribution of Sales				
					Clothing	Food and Beverages	Furniture	Appliances	Other Housewares
1980	1,613	7,183	194	Y5,684	34.0%	42.5%	2.7%	4.1%	6.0%
1985	1,931	8,963	220	7,299	31.4	43.7	2.3	4.5	5.8
1986	1,966	9,275	228	7,560	31.4	43.3	2.3	4.5	6.0
1987	1,975	9,514	232	7,875	31.4	42.5	2.3	5.0	6.0
1988	1,975	9,695	236	8,332	31.5	41.9	2.3	5.3	5.9

*Defined as stores with 50 or more employees.

**The following average annual exchange rates can be used to convert the yen sales figures: 1980, Y226.74; 1985, Y238.54; 1986, Y168.52; 1987, Y144.64; and 1988, Y128.15.

Source: Ministry of International Trade and Industry

have put a damper on the expansion plans of large chains even in the absence of tighter government regulations. Sales have yet to expand by more than 5 percent in any one year, in part due to the modest growth of consumer spending during the decade but also because a greater proportion of spending is going for services rather than goods. Department stores have done slightly better on average than the overall figure, especially last year when they registered a 6.9 percent gain and industry sales went up only 3.9 percent. Nationwide supermarket/superstore chains, in contrast, have underperformed the market -- again with the exception of 1988 (a 4.6 percent increase).

To attract customers in the slow-growth retail market of the 1980s, big retailers, whether department stores or supermarkets/superstores, have been putting money into remodeling existing stores and upgrading them by installing in-store shops handling trendy products. This has crimped profits in the always thin-margin retail industry. So has the need to computerize store operations to contain costs in labor-intensive retailing and to improve inventory control. Then there is the growing problem of finding attractive, affordable department store and supermarket locations in Japan's soaring real estate market.

Reform Drive Gains Momentum

Whatever the relationship between government regulation of the retail industry and the slow expansion of big retailers, pressure for change is building in Japan. Consumers finally are starting to complain en masse about a system that forces them to pay nearly 50 percent more than Americans for the same basket of goods and services. Corporate Japan has stepped up its campaign for deregulation of the retail industry, with the overhaul of the Large Retail Store Law at the top of its long list of needed changes. Even government agencies and advisory groups are championing reform. Last December, for instance, the Provisional Council for the Promotion of Administrative Reform called for flexible administration of the Large Retail Store Law at both the national and the local level -- a recommendation subsequently endorsed by the cabinet (see JEI Report No. 47B, December 16, 1988).

U.S. trade policymakers have climbed on the bandwagon, too, repeatedly urging the Japanese government to end the restrictions on big retailers or, at a minimum, to ease implementation of the Large Retail Store Law. Their argument is simple: the expansion of department store and supermarket/superstore chains is the key to boosting U.S. exports of consumer goods to Japan. Fleshing out this argument, American officials note that only big retailers generally are in a position to introduce and aggressively promote products made in the United States. Chains are sufficiently independent of Japanese wholesalers and manufacturers to take on the job, and they have the display space, marketing skills and financial resources to do it effectively.

Given the political clout of Japan's small retailers, repeal of the Large Retail Store Law is out of the question for the foreseeable future. The same conclusion applies as well to revising the legislation. That leaves implementation as the only candidate for change. Although there is broad support within the government for more flexibility in the law's application, the specific modifications currently under consideration are sure to fall short of Washington's minimum demands. According to retail industry analysts, a MITI task force report due out in May will not go much beyond recommending that the ministry scrap its February 1982 "emergency" measures, allow large stores to close later and instruct local governments to end their "excessive" regulation of big retailers.

While the government mulls regulatory changes that might boost imports of consumer goods over the medium term, department stores, supermarkets/superstores, discount houses and specialty chains are exploring new, alternative distribution channels to capitalize on the reduced yen costs of foreign products. These moves only date back three years or so, but they already are having an impact on Japan's retail market. A MITI sample survey of large chains indicated, for example, that 12.5 percent of the merchandise purchased by these retailers in FY 1987 came from overseas.

About one-fifth of the foreign goods bought by the surveyed companies were "development" imports -- the Japanese term for original equipment manufacturer imports or products manufactured abroad to the buyer's specifications and carrying its brand name. Big American retailers have been buying OEM goods for decades, but their Japanese counterparts have discovered the benefits of this procurement strategy only recently. They also have adopted another method long used by major U.S. retail chains to bypass wholesalers: direct imports of foreign brands. A related type of direct imports is on the rise as well -- parallel imports or brand name products obtained overseas independent of foreign manufacturers' sole agents or distributors in Japan.

Along with the fast-exanding volume of consumer goods coming into the country from Japanese manufacturers' offshore plants, the new import channels have offered consumers a modicum of relief from the inflated prices of domestic and foreign products handled by the traditional distribution network. They also have provided substantially wider market opportunities in Japan for Southeast Asian manufacturers, the dominant suppliers of OEM products. The benefits to American consumer goods producers, however, have been slight at best.

The seeming inability of U.S. manufacturers to gain a significant foothold in Japan's retail market despite the evolution of the distribution system, the dollar's fall and years of bilateral discussion increases the pressure in Washington to try to force change through a formal trade action. American frustration is understandable, but the problems of expanded access to the Japanese retail market are not the same as, say, selling more beef and oranges to Japan. Government policies certainly influence the degree of access. They are not the sole cause and perhaps not even the major cause of the limited market successes achieved by U.S. companies.

For further information, contact Susan MacKnight.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI

REPORT

NO. 11B
March 17, 1989

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Japan Slated For Big Role In New Debt Plan

What a difference half a year makes. Last September, as the Reagan administration's newly selected treasury secretary, Nicholas Brady lead the chorus protesting a Japanese initiative on Third World debt on the grounds that government funds might be required to bail out borrowers. That proposal, named after then Finance Minister Kiichi Miyazawa, called for the International Monetary Fund to act as an intermediary to help ensure the repayment of loans made to developing countries. A portion of the loans outstanding would have been exchanged at face value for bonds with new guarantees that would have involved the IMF, although Japan explained that no government funds would be used.

Now as the Bush administration's treasury secretary, Mr. Brady revealed March 10 his latest thinking on Third World debt: a portion of the loans should be forgiven. In a vague outline of what has been described as more promise than plan, Mr. Brady and other officials sketched several ways in which debt

STATISTICAL SUPPLEMENT

Trade and Payments Data

(in millions of dollars unless otherwise indicated)

	1986	1987	January-December 1987	January-December 1988	October 1988	November 1988	December 1988
Japan's Balance of Payments							
Trade Balance	$92,827	$96,386	$96,386	$94,789*	$9,064*	$7,559*	$10,932*
Exports (f.o.b.)	205,591	224, 05	224,605	259,555*	22,961*	22,180*	25,521*
Imports (f.o.b.)	112,764	128,219	128,219	164,766*	13,897*	14,621*	14,589*
Current Account Balance	85,845	87,015	87,015	79,488*	7,412*	6,762*	9,274*
Long-Term Capital (net)	-131,461	-136,532	-136,532	-130,326*	-12,579*	-9,855*	-13,980*
Overall Balance	-44,767	-29,545	-29,545	-28,982	303	478	-504
International Reserves (end of period)	42,239	81,479	81,479	97,662	92,496	97,147	97,662
Japan's Customs Clearance Trade							
Trade Balance	82,743	79,706	79,706	77,392*	7,687	6,565	9,646*
Exports (f.o.b.)	209,151	229,221	229,221	264,867*	23,436	22,682	26,080*
Cars	32,945	35,693	35,693	38,674*	3,570	3,387	3,548*
Steel	12,706	12,610	12,610	15,327*	1,342	1,370	1,667*
Imports (c.i.f.)	126,408	149,515	149,515	187,475*	15,749	16,118	16,434*
Crude Oil	19,481	20,663	20,663	18,852*	1,190	1,308	1,529*
Manufactured Products	44,039	60,560	60,560	85,529**	7,423	7,697	7,577**
Japan-U.S. Trade							
Trade Balance	51,401	52,090	52,090	47,613*	4,831	4,427	5,029*
Exports (f.o.b.)	80,456	83,580	83,580	89,612*	8,352	8,063	8,669*
Imports (c.i.f.)	29,054	31,491	31,491	42,000*	3,521	3,635	3,640*
Yen-Dollar Exchange Rate (average for period)	Y168.52	Y144.64	Y144.64	Y128.15	Y129.02	Y123.19	Y123.63
U.S. Trade							
Trade Balance	-155,137	-170,320	-170,320	-137,340	-11,752	-12,358	-11,036
Exports (f.a.s.)	227,159	254,122	254,122	322,225	28,477	27,473	29,322
Imports (c.i.f.)	382,295	424,442	424,442	459,565	40,229	39,831	40,357
U.S.-Japan Trade							
Trade Balance	-58,575	-59,825	-59,825	-55,436	-5,518	-5,294	-5,379
Exports (f.a.s.)	26,882	28,249	28,249	37,732	3,206	3,200	3,384
Imports (c.i.f.)	85,457	88,074	88,074	93,168	8,724	8,494	8,763

*Preliminary
**Estimated

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Japanese Economic Indicators

(percent change from year-earlier period unless otherwise indicated)

	1986	1987	January-December 1987	January-December 1988	October 1988	November 1988	December 1988
Discount Rate (end of period)	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Outstanding Money Supply	8.7%	10.4%	10.4%	11.2%	11.0%	10.3%	10.4%
Industrial Production	-0.2%	3.4%	3.4%	9.4%	6.3%	8.9%	8.8%
Manufacturing Operating Rate	-4.6%	0.1%	0.1%	6.0%	3.5%	6.6%	4.5%
Number of Bankruptcies	-7.1%	-27.6%	-27.6%	-20.0%	-17.0%	-14.7%	-15.9%
Residential Construction Starts	10.4%	22.7%	22.7%	0.6%	-8.5%	-11.4%	-8.1%
Job Openings to Applications (ratio)	0.62	0.70	0.70	1.02	1.09	1.11	1.15
Nominal Wages	2.7%	1.9%	1.9%	3.8%	3.9%	3.5%	4.8%*
Labor Productivity	1.9%	5.8%	4.7%**	11.8%**	10.6	n.a.	n.a.
Wholesale Prices	-9.1%	-3.7%	-3.7%	-1.0%	-1.5%	-1.6%	-1.1%
Consumer Prices	0.6%	0.1%	0.1%	0.7%	1.1%	1.2%	1.0%
Yen-Based Export Prices	-15.1%	-5.1%	-5.1%	-2.2%	-1.1%	-1.0%	0.9%
Yen-Based Import Prices	-35.8%	-8.3%	-8.3%	-4.6%	-6.8%	-8.5%	-6.1%

*Preliminary
**Through October of each year only.

For Japan's most recent GNP figures, see JEI Report No. 47B, December 16, 1988.

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REPORT

March 24, 1989

NO. 12A

U.S.-JAPAN SCIENCE AND TECHNOLOGY EXCHANGES: AN INTERVIEW WITH MARTHA CALDWELL HARRIS OF THE NATIONAL RESEARCH COUNCIL

Summary

A considerable exchange of science and technology has taken place between the United States and Japan over the past 20 years. For the better part of this period the United States was preeminent in so many different scientific fields that bilateral cooperation often was based on technology transfers from the American side. In recent years, however, it has become increasingly apparent that Japanese laboratories are engaged in important scientific and technological research from which the United States also can benefit. But because of differences in the two countries' research and development systems as well as the language barrier, it has not been easy for American scientists to become involved in Japanese research projects in a meaningful way.

Martha Caldwell Harris, director of the National Research Council Office of Japan Affairs, recently discussed with JEI Senior Political Analyst Barbara Wanner her office's role in evaluating problems and policy issues relating to science, technology and U.S.-Japan relations. She also commented on opportunities and difficulties that confront American scientists interested in participating in Japanese research projects.

Q. The National Research Council Office of Japan Affairs is relatively new. Would you briefly explain how and why it was established and what some of your goals are?

A. The National Academy of Sciences and the National Academy of Engineering conducted a series of discussions over a two- to three-year period with leaders from Japanese industry and academia to discuss broad issues in U.S.-Japan relations. There were two meetings -- one in Santa Barbara and one in Kyoto -- where U.S. and Japanese participants discussed issues concerning high technology and the environment.

As a result of those discussions, which were very wide-ranging and quite productive, the academies decided it would be a good idea to have an in-house resource, a staff of people assigned to think about U.S.-Japan issues, particularly in science and technology. Thus, more than a year and a half ago, the decision was made to set up such an office. Last spring I joined the staff of the National Research Council, which is the operating arm for the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine. The Office of Japan Affairs, which currently has three staff members, is precisely this in-house resource. I should add that in developing our program, we were very fortunate to have an advisory committee, chaired by former Defense Secretary Harold Brown, which contributes valuable expertise in science and technology.

Our purposes are threefold. First, to serve the academy complex, that is, to help other offices that are working on almost any field of science and technology where they need to know something about what is going on in Japan. In some instances we might help these offices by informing them of sources of information or people they should contact in government agencies, universities or the private sector. Sometimes we help with translation or by doing briefings or giving advice. As you can imagine, the academy receives many Japanese visitors, including industry leaders and Japanese government officials. We offer help with arrangements to ensure that they are meeting with the appropriate academy offices.

Our second purpose is to promote useful, beneficial, two-way exchanges between the American and the Japanese science and engineering communities. Of course, over the past 20 years there have been considerable science and technology exchanges between the United States and Japan. We try to focus on matters of concern to senior scientists and government officials in each country. During our first year we organized meetings that brought together specialists from each country to discuss issues such as "symmetrical access" to the research and development being conducted in the United States and Japan.

Q. What are some of these areas of debate? Research in superconductivity or other leading-edge sectors, for example?

A. It may well be that as time goes by specific fields of research, such as optoelectronics, will be the focus of a discussion. In our meetings to date, however, we have emphasized certain "issue areas." For example, there has been a lot of debate concerning lack of foreign access to Japanese science and technology and the imbalance in technology flows between the United States and Japan. The questions we hope to explore through bilateral discussions concern what can be done about this, the nature of the real problems, and so forth.

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Another example is a project designed to analyze the R&D systems in the two countries, a comparison and contrast of the way research is done in the United States and Japan. The basic rationale for this project is that in order to improve U.S. access to Japanese science and technology, it is important for American scientists and engineers as well as policymakers and the general public to understand how Japan's R&D system works. This should make it easier for American scientists and engineers to participate in the Japanese system effectively. Understanding the organizational context of S&T research is essential for improved access.

The third purpose of the Office of Japan Affairs is to look ahead at emerging policy issues that are generated by the changing relationship between the United States and Japan in the area of science and technology. What kind of U.S.-Japan S&T relationship will be possible and desirable in the next century? This question is related, of course, to the broader issues of trade policy, defense cooperation and development assistance.

Q. Concerning the second project you mentioned, do you see any significant differences in the way R&D is conducted here versus the way it is conducted in Japan? Do the two systems appear incompatible?

A. I would not say the two systems are completely incompatible, but certainly there are some significant differences that affect the ability of foreigners to participate in Japan. In both countries, interestingly enough, the research systems are changing in an effort to respond to new challenges. But because of differences in the ways R&D is funded and the traditional, vertical organization of research -- in Japanese universities, for example -- the problems and the answers may be different. Understanding those differences is important for a foreign researcher who is thinking about going to Japan and vice versa.

Let me give you an example of the kind of project in which we are involved. Thanks to U.S.-Japan Foundation funding, we will hold three meetings involving senior U.S. and Japanese scientists, engineers and research managers. At each session we will focus on a different aspect of the organizational environment for research. The first meeting we held looked at university-based research and development in the two countries. We found that there were some very interesting contrasts as well as some similarities between U.S. and Japanese university-based R&D.

One of the contrasts, for example, concerns the strength of the chair system in Japan, in which there is a senior professor under whom junior professors and younger researchers work. This is a very strong tradition in Japan and, thus, it has important implications for bilateral science and technology exchanges. The traditional image is that the chair system is stable and vertical in nature -- that is, it permits less leeway in terms of research topic selection and perhaps less recognition for younger researchers than does the U.S. university-based system.

In this country there is greater mobility of people. Researchers do not necessarily expect that they will stay within a particular setting for a long time. There also may be a good deal of entrepreneurialism in looking for research funding.

If we are going to improve U.S. access to the R&D going on in Japanese labs, American researchers have to take into account the different research context in Japan. Research tends to be very group-oriented in Japan. If the foreigner is aware of this characteristic and has no problems with it, then he or she probably can fit in and pursue research that complements the group effort. If, however, a foreigner wants to pursue a new but related direction in research, but the university research group is not working in that area, it might be difficult to get it off the ground.

There are other important differences in the two R&D systems. Most people believe that the United States is quite strong in basic research, particularly in university-based programs. And, as a general comparison, Japanese university research is not of the same quality across the board. Another difference concerns R&D funding. In Japan industry funding is much stronger, while in the United States government funding plays a much greater role. This means that Japanese corporations are the driving force behind Japan's R&D effort and that technology developed by Japanese corporations is of great interest to the rest of the world. And it is not just "technology" in a narrow sense -- it is the total organizational system for innovation, production and marketing that puts the know-how to use.

The point is that none of these differences is insurmountable, but they have to be understood and taken into account. And the context is changing in both countries. In Japan, for example, experimentation with new approaches to university research is under way, with the goal of encouraging younger researchers and collaboration across disciplines and with foreign partners.

Q. Regarding the group-oriented nature of Japanese research projects, do you think members of the American scientific community who charge that it is inordinately difficult to do research in Japan are people who want to do something new, rather than, as you say, participate in a complementary capacity in an existing project?

A. For a long time we in the United States have focused on developing our own research and did not pay much attention to monitoring and examining what was going on abroad. In recent years, however, the global context has changed. Americans are beginning to wake up and say, "Look at the trade numbers, look at the technology development going on in Japanese labs." There is a broader recognition that in order to change some of these statistics over the long run, it is important to increase our understanding of organizational factors in the Japanese setting.

But quite frankly, as some American researchers who have gone to Japan have noted, it is true that foreigners have difficulty becoming fully integrated into the Japanese research context. There is a dilemma of whether foreign researchers are treated as guests or as fellow participants. Sometimes being treated as a guest works a little bit to one's disadvantage -- if one is isolated from the major work of the lab, for example.

The problems of foreign researchers in Japan are not, in general, because the Americans wish to depart from the ongoing research project, or because we do not do collaborative research in the United States -- in fact, we do. We should think beyond just the numbers, look at the quality of the collaboration and the participation and devise new approaches to ensure that cooperation is meaningful and good for both sides.

Q. I am under the impression that for a long time the U.S. scientific community adopted an inward-looking approach to basic research. In other words, "no one does it better than we do." Would you agree with that impression? Also, has it been relatively easy or difficult for your office to generate interest in the U.S. scientific community for Japan-based research?

A. Let me clarify one important point. The NRC's Office of Japan Affairs really is not designed to facilitate scientific exchanges in the traditional sense. Rather, it is the National Science Foundation, a government agency, that has responsibility for implementing fellowship and other scientific exchange programs. The role of the NRC's Office of Japan Affairs is a little bit different. We see ourselves as complementing the NSF's efforts, but one major purpose is to evaluate problems and policy issues relating to science, technology and U.S.-Japan relations. Our office makes available to individuals within the NAS as well as outsiders information concerning various research opportunities to steer these people in the proper direction. But we do not provide fellowships for individuals to go to Japan or administer any traditional exchange programs.

Concerning your question about the attitude of the U.S. scientific community, I see it a slightly different way. You used the term "inward-looking," but in many ways our scientific community and university-based research organizations have been quite open to foreign engineers and scientists over the years. It was not that past U.S. research efforts were insular so much as we were overwhelmingly preeminent in so many different scientific fields. Thus, when we did cooperate with another country it more often was a cooperation based on teaching and technology transfer from the U.S. side. Further down the road, however, as Japan's scientific capabilities continue to grow, I think we will see more opportunities for two-way technology flows -- and more equitable cooperation.

Q. A bilateral science and technology agreement was concluded last year ostensibly to facilitate reciprocal science and technology flows. From your vantage point, have you observed any immediate payoffs from this agreement, or do you think we will reap the benefits further down the road?

A. Since the agreement was signed only last summer, I think it is fair to say that we are still in the beginning stage of implementation. Although our office was not formally involved in the negotiations, we are watching implementation closely. Conclusion of this agreement was an important step in furthering bilateral science and technology exchanges. It is my impression that it took some time to reach an accord, but the fact that both sides have agreed on some general principles concerning comparable access and mutually beneficial technology exchanges is an important accomplishment.

Over the longer term, however, a great deal of work will have to be done in order the realize the goals of the agreement, particularly if both sides expect to see expanded cooperation in certain scientific fields. We are living in an environment of intense market competition where national security interests are also of paramount concern. For these reasons, crafting cooperative research projects will take time.

One of the interesting things about the agreement is that it sets up a fairly complicated administrative and management structure. There is a cabinet-level government group, which presumably will deliberate policy questions, as well as a working-level government group, which will work to implement the accord. In addition, there is a group of private-sector advisers. Inclusion of the latter group, in particular, is an important new development.

I think it is very important to get private-sector input. There is a great deal of research activity in the private sector, in companies and in universities in both countries, that is being conducted quite separate and apart from government-sponsored programs. In reality, the cooperative projects undertaken under the rubric of the bilateral agreement will be only a small part of a much larger picture of U.S.-Japan cooperation and competition in science and technology.

Q. There seems to be a growing concern on Capitol Hill and in certain administration offices that U.S. economic interests are not being carefully assessed in concluding military joint development deals. In other words, the Pentagon is allowing U.S. allies -- that are also commercial competitors -- access to defense technology that can be spun off into civilian applications which, in turn, will enable our allies/competitors to beat out certain U.S. sectors. This is an argument one hears with regard to Japan's development of its next-generation fighter support aircraft, FSX. How will this growing sentiment affect attainment of some of your office's goals?

A. We live in a world where contributions of technologies developed in the civilian sector will be increasingly important for military systems and vice versa. We cannot artificially separate the two sides. I think that, realistically, economic concerns must be taken into account in structuring arrangements that the United States and Japan view as mutually beneficial.

Although there is a climate of concern, I believe it will be possible to find opportunities for collaboration. In the area of basic science, for example, research projects can be designed that do not readily fall into a civilian or defense category. I think that is the direction in which the bilateral agreement is oriented.

Q. I imagine the language barrier can be a pretty significant obstacle to getting more American scientists to Japan. Do you see more time and resources being devoted to training American scientists in "technical" Japanese?

A. Unquestionably, language is an important factor in bilateral science and technology exchanges. Unless a foreigner can speak Japanese, his or her research experience in Japan will always be defined by interactions with people who are fluent in English or with English-language publications. And, needless to say, that is only one small part of what is going on in Japanese science and technology. This is a longer-term issue for the American scientific community.

But I do see some important changes. For example, the Massachusetts Institute of Technology has a special technical language program. The program has been well received and appears headed on the right track. Overall, I observe a growing interest in Japanese language study. That is a very positive sign, but the key point is how long people will stick with it. In order to be really fluent, you have to spend many years studying Japanese and, ideally, some time in Japan.

I also would add the following, however. We probably would be too pessimistic if we concluded that an experience in a Japanese lab would not be very useful unless one is fluent in Japanese. Certainly, the more Japanese one understands, the more one can participate in the research group effort -- and attend the kenkyukai and understand the informal communication between and among members of the group.

But even without that fluency, an experience in a Japanese lab can be meaningful. We should not discount the benefit that could come from learning more about how research is done in Japan, learning more about the Japanese community of scientists and engineers, as well as taking advantage of an opportunity to do good research in certain fields.

Q. Do you think it is valid to say that Japan's only interest in technology transfers is so it can acquire the means to beat U.S. industry?

A. Like most general impressions, there may be some truth to that view, but there probably is some misunderstanding. First of all, one should have a better understanding of the effort that is required to assimilate technology. The general assumption is that one can easily pick up technology off the shelf and take it home and assimilate it -- like one picks up a loaf of bread. What Japan's experience has shown us is that a lot of value is added in the assimilation process -- value that contributes to a sometimes higher quality product. I also would emphasize that tremendous resources and efforts have gone into Japan's learning from abroad.

However, it will be very difficult to determine how much technology is going in either direction, primarily because we do not have unambiguous indicators. For example, we have a trade balance to which we can refer and conclude that we are "in the red" or "in the black." But to measure science and technollogy exchanges one would have to look in so many areas, such as direct investment, numbers of foreign researchers, numbers of patents filed and so forth. There are many, many things one would have to consider to get a comprehensive view.

Beyond that we also need an understanding on a more micro level. Today we are seeing more private-sector joint ventures and cooperative relationships. Sometimes benefits from these activities, in terms of technology exchanges or capital inflows, are not readily apparent to an outside observer.

For all of these reasons, it is very understandable that confusion has arisen over which directions the science and technology exchange arrows are pointing. There are probably lessons that can be learned from some of the joint ventures, particularly those ventures in which we see some hybrid organization of management and production techniques bringing together the best of U.S and Japanese approaches.

As industry goes global, technology assimilation will be increasingly important, for the United States as well as Japan. What we can say for certain is that there are many signs of Japan's growing strength in various scientific and technological fields. This will increase opportunities for bilateral collaboration from which the United States could learn from Japan, but these interactions will have to be structured carefully to ensure that both sides benefit.

Timing is critical. If the general public and the policymaking leadership see evidence that collaboration between the United States and Japan in science and technology clearly benefits both sides, the likelihood of frictions and restrictions will diminish. The question is whether this will happen, and happen soon enough to allay uncertainties on both sides.

* * * * * *

APPENDIX

Table 1: U.S. Research and Development Work, 1981-89

(in millions of dollars)

A: By Funding Source

Calendar Year	Universities	Industry	Federal Government	Total*
1981	$1,555	$35,946	$33,404	$71,866
1982	1,735	40,101	36,512	79,364
1983	1,936	43,524	40,691	87,280
1984	2,107	49,107	45,377	97,793
1985	2,377	52,358	51,668	107,757
1986	2,789	53,950	54,331	112,497
1987	3,145	56,722	57,291	118,782
1988 (estimated)	3,470	60,430	60,500	126,115
1989 (projected)	3,800	64,035	62,700	132,350

B: By Performance Sector

Calendar Year	Universities	Industry	Federal Government	Total*
1981	$6,845	$51,810	$8,425	$71,866
1982	7,324	57,995	9,141	79,364
1983	7,883	63,403	10,582	87,280
1984	8,623	71,470	11,572	97,793
1985	9,694	78,269	12,945	107,757
1986	10,926	80,631	13,535	112,497
1987	12,082	85,500	13,413	118,782
1988 (estimated)	13,000	90,600	14,500	126,115
1989 (projected)	13,900	95,350	14,750	132,350

*Total by funding source includes federally funded R&D centers, while that by performance sector includes federally funded R&D centers and nonprofit organizations.

Source: National Science Foundation

Table 2: Japan's Research and Development Work, FY 1981-FY 1987

(in millions of dollars*)

A: By Funding Source

Fiscal Year	Domestic			
	Government	Private	Foreign	Total
1981	$7,087	$19,180	$27	$26,294
1982	6,674	19,450	28	26,152
1983	7,284	23,066	35	30,385
1984	7,280	25,016	31	32,327
1985	8,446	31,729	37	40,211
1986	12,233	45,231	49	57,513
1987 (preliminary)	n.a.	n.a.	n.a.	71,099

B: By Performance Sector

Fiscal Year	Research Institutes	Universities	Industry	Total
1981	$3,986	$6,354	$15,954	$26,294
1982	3,803	6,170	16,179	26,152
1983	4,109	6,980	19,295	30,385
1984	4,231	7,061	21,035	32,327
1985	5,249	8,095	26,866	40,211
1986	7,759	11,465	38,290	57,513
1987 (preliminary)	10,025	14,149	46,926	71,099

*The underlying total figures are: FY 1981, Y5,982.4 billion; FY 1982, Y6,528.7 billion; FY 1983, Y7,180.8 billion; FY 1984, Y7,893.9 billion; FY 1985, Y8,890.3 billion; FY 1986, Y9,192.9 billion; and FY 1987, Y9,836.6 billion. These figures were converted at the following average annual exchange rates: FY 1981, Y227.52; FY 1982, Y249.64; FY 1983, Y236.33; FY 1984, Y244.19; FY 1985, Y221.09; FY 1986, Y159.84; and FY 1987, Y138.35.

Source: Management and Coordination Agency

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Notes: Televisions; Space Station 11

Japan's Economy Up Sharply In 1988

Japan's economy never stops surprising. Following on the heels of 4.5 percent growth in 1987, Japan's gross national product notched another outstanding year in 1988 with inflation-adjusted growth of 5.7 percent, the highest since 1973. The just-released figure -- which came close to estimates made late last year -- was enough to give Japan the highest growth rate among the major industrialized countries and came in far ahead of the 3.8 percent rate registered by the United States.

The latest data also suggested that Japan again had the highest per capita GNP among the seven largest industrial countries when national economies are compared at current exchange rates. Japan's figure came to $23,400 compared to $19,800 for the United States when the 1988 average exchange rate of Y128.2=$1.00 is used. However, both Japanese and U.S. analysts note that if the figures are adjusted for the cost of living in each country, the United States would come out ahead of Japan.

For the third year in a row, growth in Japan was achieved without depending on an expansion of real net exports. While exports adjusted for inflation rose 7.9 percent in 1988, import growth was far faster at 21.2 percent. As

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a result, the external sector shaved 1.9 percentage points off the overall growth rate. Without the negative impact of the external sector, the economy would have grown 7.6 percent in real terms.

While the year as a whole showed a strong performance, the economy appeared to limp home in the final stretch. Growth in the October-December quarter came to merely 3 percent annualized, below expectations. The pattern of growth in the final quarter was striking. Consumer spending -- the giant of the economy in that it accounted for about 55 percent of total GNP -- had been expected to carry an ever-increasing share of total growth as the expansion completed its second year. Instead, it was virtually flat in the quarter, rising at only a 0.1 percent annual rate. Analysts blamed the subdued public mood surrounding the late emperor's illness, which lasted throughout the quarter, and the diminishing impact of asset appreciation, which had increased spending in previous quarters as consumers who owned rapidly appreciating land and stocks raised their spending. In addition, durable goods expenditures, an important component of consumer spending, may have been weak because consumers were waiting for the abolition of the commodity tax as part of the tax reform that takes effect April 1.

With consumer spending so weak, the burden of carrying the economy forward fell to private plant and investment spending, which surged an annualized 12.6 percent over its already high levels in the previous quarter. In addition, overall economic growth got a boost from an unanticipated source -- housing expenditures, which jumped an annualized 24.4 percent to the highest recorded value ever in inflation-adjusted terms. Expectations for a weak housing sector had been broad, with many analysts expecting a fall. In fact, the number of housing starts was below the year-earlier level during the quarter. Analysts attributed the discrepancy to upgrades in the quality of housing. Housing together with plant and equipment investment more than accounted for the total growth recorded in the quarter.

In contrast to its negative impact over 1988 as a whole, the foreign sector during the last quarter was close to a neutral factor on the growth rate. Both exports and imports showed modest increases. The combined contribution to GNP growth was slightly negative, primarily because of increased income from foreign investments in Japan, which counts as an import.

Should the pattern of stagnant consumer spending and soaring capital spending continue, the neutral effect of the external sector is unlikely to persist. In this situation, a sizable chunk of the output resulting from the extra capacity could end up as exports, which, in turn, would boost the overall growth rate. To the extent that manufacturing firms shift plant and investment spending away from upgrading existing facilities -- the emphasis during the past year -- to increasing capacity this effect would be larger.

Economists found good news and bad news in the fourth quarter figures. Overall growth was disappointing. And, should consumer spending remain weak, real doubts would be raised about the ability of the economy to reach expected levels in the fiscal year that begins April 1 (see JEI Report No. 9A, March 3, 1989). The Economic Planning Agency believes the weakness in consumer spending is temporary. But even the bad news on consumer spending in the latest report could have been worse. Analysts at Mitsui Bank, Ltd. point out, for example, that the lower-than-expected figures should reduce mounting concerns about inflationary pressure (see JEI Report No. 10B, March 10, 1989).

Japan's Real Gross National Product at Constant (1980) Prices

(in billions of yen, seasonally adjusted, quarterly totals and rates of growth at annual rates)

	1987	1988	January-March 1988	April-June 1988	July-September 1988	October-December 1988
Gross National Product	Y312,370.1 (4.5%)	Y330,098.4 (5.7%)	Y327,750.6 (10.1%)	Y324,982.8 (-3.3%)	Y332,443.8 (9.5%)	Y334,870.2 (3.0%)
Personal Consumption Spending	174,353.6 (4.2%)	183,105.7 (5.0%)	180,839.0 (9.0%)	182,010.8 (2.6%)	184,590.0 (5.8%)	184,620.7 (0.1%)
Private Residential Construction	18,500.5 (22.2%)	20,984.2 (13.4%)	21,541.1 (7.7%)	19,682.3 (-30.3%)	20,854.4 (26.0%)	22,024.7 (24.4%)
Private Fixed Nonresidential Investment	59,911.6 (8.0%)	69,446.6 (15.9%)	65,130.8 (17.2%)	68,143.0 (19.8%)	71,021.6 (18.0%)	73,160.8 (12.6%)
Change in Business Inventories	962.9 (-33.7%)	1,798.3 (86.8%)	1,438.7 (*)	2,043.0 (*)	2,093.0 (*)	1,622.3 (*)
Government Current Expenditures	28,480.3 (-0.7%)	29,091.6 (2.1%)	28,835.0 (3.8%)	28,990.9 (2.2%)	29,184.4 (2.7%)	29,369.5 (2.6%)
Government Fixed Investment	23,602.7 (8.0%)	25,144.9 (6.5%)	25,809.5 (16.8%)	25,189.5 (-9.3%)	24,734.6 (-7.0%)	24,892.7 (2.6%)
Change in Government Inventories	23.3 (*)	-152.1 (*)	415.9 (*)	119.5 (*)	-225.9 (*)	-916.2 (*)
Net External Sector	6,535.3 (-21.7%)	679.4 (-89.6%)	3,740.6 (-45.3%)	-1,196.2 (*)	191.7 (*)	95.7 (-93.8%)
Exports of Goods and Services and Factor Income Received	54,415.1 (3.8%)	58,732.2 (7.9%)	57,573.7 (14.4%)	55,377.6 (-14.4%)	60,994.6 (47.2%)	61,074.4 (0.5%)
Imports of Goods and Services and Factor Income Paid	47,879.8 (8.7%)	58,052.8 (21.2%)	53,833.1 (21.1%)	56,573.8 (22.0%)	60,802.9 (33.4%)	60,978.7 (1.2%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

Nevertheless, the Bank of Japan, which has sounded the alarm repeatedly on inflation, turned up the volume a little in a warning released the same day as the GNP figures. In BOJ's view, events in early 1989 pose a triple threat to price stability. The yen has weakened in recent weeks, oil prices are rising, and the new consumption tax will give a one-shot boost to the price level. The latest GNP figures give some support to the BOJ argument: the GNP deflator, a broad measure of inflationary trends, has risen in each of the past four quarters, although it still is running at less than 1 percent per year.

The latest quarterly data leave uncertain the prospect for achieving the government's estimated 4.9 percent real growth in fiscal year 1988, which ends March 31. If growth continues at the same rate as in the October-December quarter, the overall growth rate will be less than the forecast figure for FY 1988. If, however, GNP expands at the average pace of the past four quarters, the FY 1988 rate will come to exactly 4.9 percent.

Douglas Ostrom

Japan's Savings Balances Hit Record Level

Japanese thrift is legendary. Washington policymakers spend countless hours trying to figure out ways to get U.S. households to emulate their Japanese counterparts. Advocates of higher savings in America typically compare household savings as a percentage of disposable income in the two countries. In recent years this figure has varied between 16 and 17 percent in Japan -- about four times the U.S. figure, according to the Organization for Economic Cooperation and Development.

With Japan's savings rate remaining high year after year, savings balances now have reached remarkably high levels (see Table). Recently released Japanese data show that in 1988 Japanese worker households had average savings of Y8.9 million ($69,665 at 1988's average exchange rate of Y128.2=$1.00), which came to 1.44 times average annual income. (The worker households in the survey averaged about four members each.) Despite talk that Japanese consumers are going on a spending spree, this figure actually was higher than the figure of 1.35 recorded in 1987.

Average Savings Level of Japanese Worker Households, 1988

(as of December 31)

	Amount (thousands of yen)	Change from 1987
Demand Deposits	Y646	9.9%
Time Deposits	3,623	5.8
Life Insurance	2,326	15.0
Securities	1,919	6.7
Stocks	976	3.1
Other Securities	943	10.6
Outside Financial Institutions	418	17.1
Total	8,931	9.0

Source: Management and Coordination Agency

Of course, when viewed as a percentage of income, rising liabilities might offset higher asset levels, as was the case in previous years when the two series rose almost in tandem. However, in 1988 assets increased while liabilities shrank, making the growth in assets all the more significant. While household financial assets were up 9 percent, financial liabilities declined 2.1 percent. In 1988, 91.7 percent of household liabilities were in the form of housing and land loans, which averaged Y2.5 million ($19,500) per worker household, a decline of 0.5 percent from 1987. Analysts attributed the drop to the decreased affordability of housing in light of the recent rise in land prices.

Over the longer term, where both liabilities and assets have risen as a percentage of income, the figures reflect the increasing sophistication of Japanese financial institutions. While some analysts have pointed to increased borrowing by Japanese households as evidence that the savings ethic is withering away, the long-term data suggest that greater borrowing on the part of some households has been offset with more savings by others. More efficient financial institutions have intermediated these interhousehold financial transactions.

As savings balances have risen, their composition has changed. In 1988 the biggest gainer was life insurance, which jumped 15 percent. This relatively rapid growth reflected the continued advantageous tax status of insurance policies in comparison to other savings vehicles that lost their tax-free status with the abolition of the maruyu system April 1, 1988. But time deposits, among the big losers in tax reform, still managed a modest 5.8 percent gain.

The figures suggest that Japanese households remain relatively cautious about spending after two full years of vigorous economic expansion (see preceding article). How Japanese households plan to use this huge stash of funds is unclear. Obviously, the savings now are sufficient for rainy days of more than Biblical duration. And, while Japan's population is aging, an increasing number of experts believe that the elderly will not run their savings down significantly, especially in light of substantial improvements to pension programs in recent years. Instead, the elderly may be planning a bequest for their heirs. The minority of the sample households who do not now own a home may be saving in part because they cling to a hope that they eventually will be able to afford one.

The data underscore the ability of Japanese consumers to increase their spending quickly, should they feel the urge, because of increased wealth. Rising stock and land prices have received credit for boosting consumer spending in Japan, an action made easier by the high levels of liquid financial assets shown in the table.

With little sign that Japanese savings rates are falling significantly, savings balances are likely to keep climbing steadily. One interesting question for the coming years is likely to be how the Japanese household financial planner will allocate her growing portfolio. (In many Japanese households housewives make the key investment decisions.) Yet, Japanese households have fewer investment and savings choices, despite ongoing deregulation, than their American counterparts. As these choices slowly widen, competition among Japanese -- and foreign -- financial institutions for this enormous pool of savings is likely to intensify.

-Douglas Ostrom

- A wholly owned subsidiary system - Banks and securities firms would compete in the other's market through wholly owned subsidiaries. Unlike the previous option, the parent corporation could become entangled in the financial difficulties of its subsidiary. This is modeled after the Canadian deregulation of 1987.

- An investment bank subsidiary system - Banks and brokers would be allowed to establish a wholly owned investment bank subsidiary offering commercial and investment services to large institutional clients only.

- Modest modifications to the existing system - The present system would be preserved with the addition of very specific and limited channels for banks and securities companies to compete in each others' markets.

The first and last options have been practically ruled out by the expert panel. Universal banking could lead to undesirable consequences, according to panel head Ryuichiro Tachi of Tokyo University. Large commercial banks with their extensive network of offices could dominate the brokerage business, he argues, while the government could face added liability if it guarantees savings deposits handled by securities companies. (Government guarantees currently apply only to deposits at banks.) At the other end of the spectrum, keeping the current system with specific modifications is considered unrealistic given the recent activities of financial firms. As indicated earlier, Japanese banks and brokers are looking actively for or exploiting gray areas in the existing law. Professor Tachi is worried that if the erosion of the law by private firms is allowed to continue unchecked, Japan's financial markets could not only become disorderly but less transparent to foreign firms. If Tokyo is to become a global money center, he contends, the rules must be transparent to foreign and domestic firms alike and operate in line with global practices.

Behind-the-scenes talks and debate therefore are focusing on the three remaining options. MOF is concerned about moving too fast, however. With the European Community drafting new communitywide financial rules in preparation for its 1992 unification program and the United States still undecided about how to revise the Glass-Steagall Act, Japan could find itself out of step if it moves in the wrong direction. MOF realizes, however, that reforming Article 65 will be very difficult and time-consuming; the multitude of interests to be balanced ensures this.

Jon Choy

Who's On First In R&D?

One indicator of the intensity of the technological competition between Japan and the United States is how highly each side regards the other. By this measure a recent American report and a Japanese newspaper survey indicate that the competition is indeed intense. Mutual congratulatory exercises aside, both Tokyo and Washington are focusing funds on areas of perceived weakness or criticality.

Japan's leading economic daily, the Nihon Keizai Shimbun, recently surveyed more than 300 Japanese scientists and researchers from business, academia and research centers and asked them to rank Japan, the United States and Europe in 47 areas of basic, precommercial and commercial technology. The results go against the commonly held idea that Japan is winning the technological race.

Japan was ranked first in only two of the 47 fields (see Table). Moreover, the respondents felt that Japan would pull ahead of the United States in just seven other fields by the start of the next century.

U.S. scientists responded to the study's results with skepticism, pointing out that while the United States may be ahead in basic research, Japan leads in commercializing new technologies. The Japanese respondents also may have been too deprecatory in their evaluation. In response to other questions, however, it was clear that they felt Japan was not enjoying a free ride on U.S. and European basic research. In fact, the respondents were overwhelmingly in favor of greater dissemination of Japanese scientific information in Europe and the United States, indicating they felt Japan had much to offer.

On this side of the Pacific, a government-funded report heaps praise on one of Tokyo's more unusual approaches to research, the Exploratory Research for Advanced Technology program. ERATO is unusual for several reasons: the subjects of the five-year grants have been basic science as well as precommercial technology; an interdisciplinary approach to project goals is encouraged; and project leaders have a great deal of freedom in how they use their grant monies, even to the point of employing foreign researchers. According to a report funded by JTECH, a Commerce Department program initiated in 1983 and currently led by the National Science Foundation, ERATO has put Japan at the cutting edge of several areas, such as crystal growth technology and prostaglandin research. "That ERATO can foster this spirit of independence while working within the confines of the existing industrial and university structure I find remarkable," wrote one contributor to the JTECH report.

Despite this praise the Council for Science and Technology, a Japanese government advisory body chaired by the prime minister, recently urged Tokyo to increase its efforts in other areas. The March 14 report calls for a concerted effort on "intelligent" computers that can understand speech, recognize visual patterns, and learn and understand everyday life. The council called for new efforts in hardware but said that software in particular needs greater attention. Although Japan has done well up to now by letting private companies bear the majority of the research and development burden, the report insists that the government must play an ever-increasing role in the future, especially in information technologies and basic research, which derive a large part of their value from broad dissemination.

In Washington the Departments of Defense and Energy presented to the Senate Armed Services Committee March 17 a list of 22 technologies deemed critical to "the long-term qualitative superiority of U.S. weapons systems." In addition to the fields of microelectronics, computer technology, detection and tracking technology, and power plants, the agenda includes advanced structural composite materials, high-temperature superconductivity and biotechnology. The report met criticism from those saying it left out important areas, such as aerospace, and from others who said it lacked details on how to support these "critical" items. The Defense Department said that the list was by no means final, closed or all-inclusive. Given the nature of the congressional mandate that DOD and DOE were trying to meet, the list was the best they could put together for this year. Funding, in particular, is an open question as Congress grapples with the federal budget deficit. It is unquestionable, however, that Japan and the United States will be each other's most formidable competitor in the development and the commercialization of advanced technology.

Jon Choy

Results of a Nihon Keizai Shimbun Survey on Technological Leadership

(rank in field for specified year)

	1988			2000		
Field	United States	Europe	Japan	United States	Europe	Japan
New Industrial Materials						
High-temperature superconductors	1	3	2	1	3	2
Nonlinear optoelectronic materials	1	3	2	1	3	2
Ferromagnetic materials	2	3	1	2	3	1
Molecular functional materials	1	2	2	1	3	2
Durable, advanced composite materials	1	2	2	1	3	2
Alloys and intermetallic compounds	1	3	2	1	3	2
Fine ceramics	1	3	2	2	3	1
Carbon-based materials	1	3	2	1	3	1
Amorphous crystal materials	1	3	2	1	3	2
High-purity fine polymers	1	3	2	1	3	2
Silicon-based materials*	1	3	2	1	3	2
Microelectronic materials	1	3	2	1	3	2
Electronics						
Superconducting devices	1	3	2	1	3	1
Quantum-effect devices	1	3	2	1	3	2
Electronic power devices*	1	3	2	1	3	2
Optical devices	1	3	2	1	3	2
Large circuit devices*	1	3	2	1	3	1
Biotechnology						
High-performance enzymes and biomaterials	1	2	3	1	3	2
Animal and plant cell engineering*	1	2	2	1	3	2
Genetic engineering	1	2	3	1	2	2
Biomaterial databanks	1	2	3	1	2	3
Screening and isolation of genes from all sources*	1	2	3	1	2	3
Bioreactor technology	1	2	3	1	2	2
Atomic-level precision manipulation technology	1	2	2	1	2	2
Fabrication of metals and inorganic substances	1	2	3	1	2	2
Precision molecular alignment technology	1	2	3	1	2	2
Evaluation, analysis and measurement technology	1	2	2	1	2	2
Design and simulation technology	1	3	2	1	3	2
Photoreactive process technology	1	2	2	1	2	2
Processing technology for special environments (such as microgravity and high pressure)	1	2	3	1	2	2
Biomaterials						
Biomimetic materials	1	3	2	1	3	1
Biocompatible materials	1	3	2	1	3	2
Biochemical technology	1	3	2	1	3	2
Bioprocessing	1	2	2	1	2	2
Bioelectronics						
Protein alignment technology	1	2	3	1	2	3
Biomembrane technology	1	2	3	1	2	3
Analysis of bio-related materials	1	2	2	1	3	2
Computer Software and Systems Engineering						
Self-organized data processing systems	1	3	2	1	3	2
Self-organized neural networks	1	2	3	1	2	2
Ultraparallel processing architectures	1	3	2	1	3	2
Integrated mechanical control software	1	3	2	1	3	2
Software development technology	1	3	2	1	3	2
Disaster prevention technology	1	3	2	1	3	1
Environmental control technology	1	3	2	1	3	1
Human-related technology	1	2	2	1	3	2
Resource and energy technology	1	2	3	1	3	2
Robotic technology	2	3	1	2	3	1

*Fields where the newly industrialized economies are making rapid progress.

Source: Reprinted with permission from Japan Economic Journal, March 11, 1989.

Mr. Danforth concedes that the final decision on whether to go ahead with a particular project should rest with the president. But the senator emphasized the need to have input on negotiations from the agencies in touch with business and industry, including the Office of the U.S. Trade Representative.

At JEI press time President Bush gave the FSX project the go-ahead but stated he would seek different terms in several key areas than those outlined in the November 29, 1988 memorandum of understanding. These changes are unlikely to alter the sentiment on Capitol Hill that more emphasis must be given to economic priorities in order to restore U.S. competitiveness worldwide. While it is too early to predict whether the legislative prescriptions will gain enough support to become law, it seems certain that Congress will be lending more of an ear to America's commercial voices.

Gretchen Green

Notes

Televisions - Japan's consumer electronics manufacturers now supply the American color television set market almost entirely from U.S. production facilities. South Korean companies also make an increasing proportion of the color TVs they sell here at onshore plants, a business strategy dictated by the same development that initially prompted a number of Japanese producers to begin domestic assembly operations -- a dumping finding. But these production moves have not ended Zenith Electronics Corp.'s 20-year legal campaign against what it claims is a persistent pattern of unfair trade in television sets. In the latest chapter the last major U.S.-headquartered TV manufacturer charges that Asian competitors subject to antidumping-duty orders are evading the penalty tariffs by shipping into the United States complete and incomplete color TVs, color picture tubes and television parts from plants in third countries.

On February 27 the Department of Commerce disclosed that it would monitor imports of complete and incomplete color television sets from Mexico and Malaysia for up to one year to determine whether there is sufficient evidence of sales at less than fair value to initiate a full-scale antidumping investigation. This action marks the first time Commerce has utilized Section 732 of the 1984 Trade Act, although Zenith's December 30, 1988 request for monitoring was not the first received by the department. The steel industry has tried three times, while makers of brass sheet and strip have a request pending. At the same time, Zenith did not get everything it wanted, which included tracking all color television-related imports from Singapore, Hong Kong, China, Thailand and the Philippines as well as from Mexico and Malaysia.

Section 732 is similar in intent to the anticircumvention language added to U.S. trade law by the 1988 Omnibus Trade and Competitiveness Act (see JEI Report No. 10B, March 10, 1989). The older measure is more difficult to trigger, however. At least two antidumping-duty orders on a product must be outstanding before Commerce can start monitoring imports. Moreover, the department has to have some reason to believe or suspect that "an extraordinary pattern of persistent injurious dumping" is causing serious problems for domestic manufacturers. The antidumping-duty orders on television sets made in Japan (March 1971), South Korea (April 1984) and Taiwan (April 1984) and on color picture tubes sourced from Canada, Japan, Korea and Singapore (January 1988) got Zenith past the threshold requirement for a monitoring program, and the company evidently supplied Commerce with enough information indicating dumping of Mexican and Malaysian TVs to meet the second test.

U.S. Imports of Complete Color Television Sets, 1984-88

	1984	1985	1986	1987	1988
Value (millions of dollars)					
Total Imports	$1,088.2	$1,030.2	$1,375.9	$1,323.2	$1,230.4
Mexico	0.1	18.2	103.2	233.2	492.7
Taiwan	238.4	255.1	361.6	389.3	259.3
South Korea	280.1	122.1	236.1	236.0	166.6
Malaysia	27.3	40.2	40.9	122.2	95.4
Singapore	33.3	77.9	92.6	75.1	88.6
Japan	429.8	436.9	440.9	184.1	52.2
Volume (thousands of sets)					
Total Imports	6,438	8,344	9,446	9,383	7,910
Mexico	2	138	841	1,696	2,706
Taiwan	1,415	1,767	2,697	2,792	1,781
South Korea	1,841	845	1,743	1,812	1,323
Malaysia	199	394	343	967	780
Singapore	205	533	641	494	583
Japan	2,476	4,324	2,719	1,233	448

Source: Department of Commerce

Space Station - While Washington and Tokyo spar over the FSX fighter support aircraft, the two governments are moving ahead on an equally complex project -- the permanently manned space station that the National Aeronautics and Space Administration hopes to have in operation by the end of 1997. In late September 1988 representatives of the United States, Japan, Europe and Canada signed an agreement covering national security use of the station, user allocation, cost sharing, technology transfer and many other contentious areas. In mid-March Japan and the United States initialed a memorandum of understanding on each country's roles and responsibilities in the project.

Japan will retain the use of about 51 percent of its laboratory module, a multipurpose facility for experiments in materials processing and life sciences known as the Japanese Experiment Module. The United States will be able to use JEM 46 percent of the time, with Canada having the remaining 3 percent access. Power, crew and other station resources needed for experiments will be shared on the basis of 70 percent for the United States, 13 percent each for Japan and Europe and 3 percent for Canada. The same formula will be used to split the common costs of the station's operations, but each partner will be responsible for the cost of maintaining its own hardware.

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The views expressed in this report are those of the authors and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

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Japan Prepares For Consumption Tax

In early April the minds -- if not the hearts -- of young and old alike in America turn to taxes. This year Japanese taxpayers will do their U.S. counterparts one better as they brace for the introduction of a 3 percent consumption tax that promises to change the price of practically everything a Japanese consumer purchases (see JEI Report No. 45B, December 2, 1988). Just as American bookstores are inevitably full of tax guides in the spring, Japanese bookstores have reported brisk sales of books explaining the new consumption tax; three out of the 10 most popular nonfiction titles deal with the subject. Almost in sync with the cherry blossoms for which Japan is famous, the new system will burst into bloom April 1 after months of preparation.

For some the new system will be as welcome as the cherry blossoms, only longer lasting. On products for which the new 3 percent consumption tax replaces a commodity tax, prices will drop substantially. Most prominent among these goods are cars. All the major manufacturers have announced hefty price reductions. Toyota Motor Corp., Honda Motor Co., Ltd. and Mitsubishi Motors

With firms worrying they will have to absorb the tax and consumers fearing unfair price increases, the Japan Fair Trade Commission has found itself in the middle. On the one hand, it has approved hundreds of cartels for manufacturers and distributors to help them adjust to the new system, suggesting a tilt toward higher prices. On the other hand, it also has said it will take strong action against illegal cartels and has asked the public's help in this effort. In all likelihood, the burden of the new tax will be shared by consumers and producers, at least over the short run. The higher prices will affect the quantity demanded, with the result that producers will have to shave their markups slightly.

Foreign producers are likely to reap a modest benefit from the tax changes. Imported cars, for example, tend to be luxury models on which taxes will fall significantly. On the export side, the tax will have little effect since the tax will not be assessed against products sold abroad.

Some analysts have suggested that the new tax will prod Japanese wholesalers to consolidate the fragmented distribution system that foreign critics have claimed works as a trade barrier. This is unlikely. Firms might be able to save on paperwork by taking such a step, but the tax is assessed on the value added, not on the gross value of production, at each stage. As a result, eliminating layers of the distribution system would not create a tax saving. Further, the new tax treats small firms more favorably for administrative purposes than it does large firms, so small distribution companies have advantages that offset any additional paperwork burden.

As the American taxpayer approaches the dreaded April income tax deadline, he or she might contemplate the plight of a Japanese counterpart. Just as three years ago the American taxpayer was skeptical when told the income tax system was being reformed in a "revenue-neutral" fashion, the Japanese taxpayer approached April 1, 1989 every bit as cynically, despite the promises of offsetting income and commodity tax relief. A March Nihon Keizai Shimbun survey showed 57 percent of the population opposed to the new consumption tax.

Douglas Ostrom

Japan's Labor Productivity Outpaces Wage Increases

Explanations of Japan's astonishing economic growth are legion, but one obvious one -- labor productivity -- sometimes is overlooked. Higher output per unit of labor implies that workers can benefit in the form of higher inflation-adjusted wages at the same time their employers enjoy higher profits. The situation generally is even more favorable to employers if the rate of productivity growth exceeds the rate of real wage increase. This pattern, which some economists have identified as a linchpin of Japan's early postwar expansion, has continued in recent years. Between 1975 and 1987 Japan's labor productivity in manufacturing jumped 98 percent, while real wages went up 18.8 percent.

If nominal wage growth is modest relative to productivity gains, unit labor costs are likely to fall, eliminating one source of inflation and making real wage gains more likely. As the table shows, this pattern was evident during earlier years and resumed in recent years. In 1987 and 1988 the growth of labor productivity exceeded the rate of nominal wage increase by an unusually large amount as the economy recovered from the downturn that hit bottom in late 1986.

Labor Productivity and Wage Gains in Manufacturing, 1975-88

(annual rate of increase)

	Labor Productivity	Nominal Wages	Real Wages
1975-80	8.6%	8.3%	1.7%
1980-84	3.9	4.2	1.3
1984-85	4.4	3.1	1.0
1985-86	1.8	1.5	1.1
1986-87	5.8	1.7	1.9
1988 January	12.4	3.5	2.7
February	13.8	4.3	3.7
March	11.4	4.2	3.7
April	12.8	4.6	4.6
May	13.8	4.2	4.2
June	12.0	5.7	5.6
July	10.5	3.2	2.7
August	10.9	6.0	5.4
September	10.0	4.0	3.5
October	12.2	4.5	3.5
November	10.3	4.4	3.2
December (p)	n.a.	4.9	4.0

Sources: Japan Productivity Center and Ministry of Labor

As has happened in previous recoveries Japanese firms used their existing labor more productively and were cautious about hiring additional workers in the early phases of the recovery. The resultant boost in overall labor productivity, coupled with wage restraint, helped Japanese firms become more competitive in international markets and offset some of the loss that resulted from the yen's appreciation. As also was true in earlier periods Japanese workers shared in the benefits, with real wage gains in manufacturing coming to 4 percent in December 1988 compared to a year earlier. For all of 1988 real wages in manufacturing rose 4 percent, the biggest increase this decade.

The most recent data show that labor productivity increases in late 1988 remained almost as large as they were earlier in the year and the rate of nominal wage increase almost as small. In short, Japan's tightening labor market (see JEI Report No. 8B, February 24, 1989) has yet to have a significant, damaging impact on the productivity-wage relationship. In fact, the statistics suggest that Japan's unit labor costs in manufacturing continue to fall, implying that the labor market still has a restraining effect on overall prices.

Douglas Ostrom

Rogachev said after meeting with Mr. Uno, can be raised into a tree if both sides show flexibility. Mr. Uno stressed that step-by-step progress was the only way to lay a sound foundation for improved relations. To keep the bud growing, Tokyo has invited five Soviet Foreign Ministry officials for two weeks of talks this fall. It is clear that Japan-Soviet relations are warming up, but rapprochement remains limited by the territorial dispute.

Jon Choy

Wizards Of Ozone Look for Ways To Help LDCs

While not calling for sleight-of-hand substitution or magic, Japan and the United States are looking for ways to help Third World countries bridge a gap brought about by a proposed phaseout of chemicals considered responsible for depleting the ozone layer. Chlorofluorocarbons have helped boost the standard of living in developed nations by acting as coolants in refrigerators and air conditioners and as solvents used in producing semiconductors, among other uses. But scientists have discovered that the long-lived CFCs drift into the upper atmosphere where they end up destroying the ozone layer. This, in turn, permits more harmful ultraviolet light to reach the earth as well as contributes to the greenhouse-like warming of the earth's atmosphere -- with uncertain consequences to agriculture and ocean levels.

A group of more than 30 nations, including Japan and the United States, is moving to combat these bad effects. They have agreed to a United Nations-sponsored 1987 Montreal Protocol to freeze CFC production and consumption at 1986 levels this year and cut them by half that amount by 1998. This year many developed countries urged a ban on the chemicals by 2000. And some countries are pushing harder for an earlier phaseout date, particularly since scientists suggest that current ozone depletion will not hold a candle to the effects produced by more recent, intense use of CFCs.

Early March meetings in London and The Hague, however, have underscored the concerns of Third World countries, which are pressing to gain access to CFC technology before the developed nations begin restricting use of the chemicals. As the developing countries see the problem, the industrial nations have polluted the atmosphere with the long-lasting chemicals and have the jump on coming up with substitutes. To compensate for the development lag, the Montreal Protocol allows the Third World a longer period for phasing out the chemicals. But the suggestion of financial help to developing countries at the early March meetings offered them perhaps a greater hope of being part of the solution to pollution.

The United States already is working independently to help decrease the use of halons, another ozone-depleting substance covered by the Montreal Protocol. An Environmental Protection Agency official noted that a project is under way with the People's Republic of China to develop halon substitutes. Work also is being done with an international institute to find substitutes for the CFCs used in refrigerators, he said. According to the Japan Times, similar coordination might be expected if Japan, the United States and the European Community developed a technology fund for CFC substitutes. "The developing nations insisted that this financing be on top of existing aid and not subtracted from it," the newspaper reported.

Discussions of such financing are expected at a May meeting of environmental officials from both Japan and the United States and at a July meeting in Paris of the Group of Seven industrialized nations. One possibility is a fund to help developing countries license CFC-substitute technology from Japanese and American firms that are developing such alternatives. E.I. DuPont de Nemours & Co., Asahi Glass Co., Ltd. and Seiko Epson Corp. are only some of the companies developing substitutes for either CFC-12, CFC-113 or CFC-11, three of the chemicals covered by the Montreal Protocol. Their willingness to share their technologies may depend in part on whether firms in Third World countries have the funds to pay licensing fees.

Given the longer period for CFC phaseout that the Montreal Protocol extends to developing countries, some experts envision the possibility that the current high production and consumption figures of the industrialized nations will flip-flop over the next decade with the Third World's totals. While figures reportedly are protected with proprietary zeal by manufacturers and thus do not come in neat packages, the Washington-based Chemical Manufacturers Association has broken world CFC consumption shares into: the European Community -- 31 percent; North America -- 30 percent; Japan -- 12 percent; the Soviet Union -- 10 percent; and "others" -- 17 percent. More specific figures from the Alliance for Responsible CFC Policy, a U.S. organization representing the chemicals' manufacturers and users, indicate the United States produces and uses about 29 percent of world CFC totals, while Japan produces about 15 percent and uses about 20 percent of world output.

Chlorofluorocarbon Consumption in Japan by Usage, 1981*

(in tons)

Solvents	56,000
Coolants	46,000
Foam	32,000
Aerosols	13,000
Total	147,000

*Japan's CFC production in 1986 totaled about 187,000 tons. By signing the Montreal Protocol Japan has agreed to halve that number by 1998.

Source: Environment Agency

Leadership in finding air pollution solutions currently appears to be many-sided with leading industrialized nations waving the banners on behalf of improved global climates. Without a coordinated effort, which may include finding and funding ways for developing countries to bridge the technology gap, the leaders may find they have no more impact than the Wizard of Oz.

Pat Murdo

American economic realities and strengths. ATV may be important not only for its direct economic benefits but also as a model for a new mode of interaction between and within government and industry.

Jon Choy

The Bilateral Trade Account: Short-Lived Good News?

For three years economists and policymakers on both sides of the Pacific have been saying that it was just a matter of time before the huge U.S. trade gap with Japan began to narrow since the dollar-yen realignment was moving export and import figures in the right directions. The long-awaited turnaround finally occurred in 1988, but there were few cheers in Washington or Tokyo, for that matter. The reasons are not hard to fathom. For starters, the course correction simply was too limited to produce anything more than a low-key response, especially since it was anticlimactic. After jumping from $10.6 billion in 1979 to $36.8 billion in 1984 and then soaring to $59.8 billion in 1987 (imports valued c.i.f.), the bilateral trade imbalance merely contracted to $55.4 billion last year (see Table 1).

Table 1: U.S. Trade with Japan, 1984-88

(in millions of dollars; exports f.o.b., imports c.i.f.)

	Exports	Change Over Year-Earlier Period	Imports	Change Over Year-Earlier Period	Trade Balance
1984	$23,575	7.7%	$60,371	38.6%	$-36,796
1985	22,631	-4.0	72,380	19.9	-49,749
1986	26,882	18.8	85,457	18.1	-58,575
1987	28,249	5.1	88,074	3.1	-59,825
1988	37,732	33.6	93,168	5.8	-55,436
1986: I	5,574	-10.8	20,888	20.2	-15,314
II	7,499	41.5	20,885	13.4	-13,386
III	7,229	31.1	21,555	18.3	-14,326
IV	6,581	18.2	22,128	20.4	-15,547
1987: I	5,959	6.9	20,331	-2.7	-14,372
II	6,615	-11.8	21,980	5.2	-15,365
III	7,644	5.7	22,228	3.1	-14,584
IV	8,031	22.0	23,534	6.4	-15,503
1988: I	8,837	48.3	21,860	7.5	-13,023
II	9,365	41.6	22,316	1.5	-12,951
III	9,741	27.4	23,011	3.5	-13,270
IV	9,789	21.9	25,981	10.4	-16,191

Source: Department of Commerce

The modest reduction in the red-ink entry for Japan in 1988 was all the more disturbing because of the big dent made in the overall U.S. trade imbalance. The aggregate deficit, which had climbed five-and-a-half times between 1980 and 1987 to a record $171.2 billion, shrank 20 percent last year to $137.4 billion (imports again c.i.f.). Fully one-third of this improvement reflected a near halving of the deficit with the European Community to $12.8 billion. A smaller shortfall between exports to Taiwan, South Korea, Hong Kong and Singapore and imports from these newly industrialized economies (down from $37.7 billion in 1987 to $31.6 billion last year) also had more of an impact on the U.S. trade account than the narrower gap with Japan. The same was true in relative terms of this country's trade results with the members of the Organization of Petroleum Exporting Countries as the imbalance shrank by $3.6 billion to $11.1 billion. In fact, only the slight change in the bottom line with Canada in 1988 -- a deficit of $10.6 billion replacing one of $11.7 billion -- made the U.S.-Japan trade results look good.

The underlying numbers were cause for some satisfaction, however. Pushed by the dollar's roughly 50 percent drop against the yen over the last three years and pulled by the strong expansion of domestic demand, U.S. exports to Japan soared 33.6 percent in 1988 to $37.7 billion. Growth was broad-based (see Table 2), extending from the old mainstay of American shipments -- industrial and agricultural inputs -- to the new sales leader, manufactured products, which accounted for more than one-half of exports to Japan for the second year running. At the same time, the dollar-yen shift and the performance of the American economy again reined in the rise in U.S. imports from Japan. Purchases increased by a modest 5.8 percent to $93.2 billion on a c.i.f. basis, in part because cars and trucks were added to the list of major made-in-Japan products in the minus or slow-growth column (see Table 3).

What worries private-sector and government analysts alike is that these developments produced a one-time improvement -- and a small one at that -- in the U.S.-Japan trade picture. In this scenario the jump in red ink during the October-December 1988 period cannot be written off as a quirk. Instead, it is a sign that, short of a prolonged recession in this country and a sustained boom in Japan, the bilateral deficit is headed back toward its record 1987 level after just three quarters of progress.

Susan MacKnight

Notes

Stopgap Budget - Continuing political trouble over the Recruit Co., Ltd. influence-buying affair makes it unlikely that Prime Minister Noboru Takeshita will be able to push the 1989 budget through the Diet before the April 1 start of the fiscal year. The government has been forced to compile a temporary budget of Y10 trillion ($80 billion at Y125=$1.00) for the first 50 days of the fiscal year, but opposition party resistance to passing even this temporary measure is strong.

Opposition parties are demanding that former Prime Minister Yasuhiro Nakasone testify about his involvement in the Recruit affair before the Diet. Prime Minister Takeshita's reluctance to call on his predecessor has sparked

Table 2: U.S. Exports to Japan, 1987-88

(in millions of dollars, f.a.s. value)

	1987	1988	Percent Change
Total Exports	$28,248.6	$37,732.1	33.6%
Industrial Supplies	10,247.0	12,951.4	26.4
Bituminous Coal	484.5	597.5	23.3
Petroleum Products	661.3	657.9	-0.5
Logs and Lumber	1,573.4	1,906.2	21.2
Paper Base Stocks	756.7	1,051.5	39.0
Paper and Paper Products	404.1	476.6	17.9
Organic Chemicals	870.4	1,105.6	27.0
Inorganic Chemicals	831.5	887.7	6.8
Plastics and Synthetic Resin Compounds	422.8	544.4	28.8
Nonferrous Ores and Scrap	553.9	892.7	61.2
Nonferrous Metals	394.3	826.3	109.6
Raw Cotton	413.7	484.0	17.0
Hides and Skins	369.6	465.0	25.8
Capital Goods	7,290.4	10,059.9	38.0
Electric Machinery	471.2	629.3	33.5
Nonelectric Machinery	4,873.2	7,103.0	45.8
Industrial and Service Machinery	1,602.4	2,453.1	53.1
Computers, Peripherals and Semiconductors	2,038.8	2,976.9	46.0
Telecommunications Equipment	418.9	585.8	39.8
Scientific and Medical Equipment	557.2	747.6	34.2
Transportation Equipment	1,945.9	2,327.7	19.6
Civilian Aircraft	1,094.9	1,288.8	17.7
Civilian Aircraft Parts	796.0	854.6	7.4
Food, Feed and Beverages	5,578.9	7,964.2	42.8
Corn	1,036.0	1,616.2	56.0
Soybeans	785.7	1,030.1	31.1
Wheat	352.3	425.5	20.8
Fruits and Vegetables	664.5	822.1	23.7
Meat and Meat Products	898.3	1,375.4	53.1
Fish and Fish Products	1,058.8	1,576.4	48.9
Consumer Goods	2,548.0	3,273.0	28.5
Nondurables	1,612.5	1,944.4	20.6
Pharmaceuticals	679.7	784.8	15.5
Cigarettes	491.9	606.3	23.3
Durables	783.1	1,112.5	42.1
Recreational Equipment	256.7	390.5	48.2
Gems, Jewelry and Collectibles	244.0	326.6	33.8
Automotive Products	361.8	776.7	114.7
Automotive Parts, Engines, Bodies and Chassis	253.4	417.4	64.7
Other Exports	2,222.5	2,706.8	21.8

Source: Department of Commerce

Table 3: U.S. Imports from Japan, 1987-88

(in millions of dollars, Customs value)

	1987	1988	Percent Change
Total Imports	$84,575.0	$89,802.1	6.2%
Capital Goods	27,576.6	32,823.8	19.0
Electric Machinery	2,937.4	3,566.0	21.4
Nonelectric Machinery	24,120.7	28,701.9	19.0
Construction, Mining and Drilling Equipment	1,079.2	1,376.1	27.5
Industrial and Service Machinery	7,230.3	8,465.3	17.1
Agricultural Machinery	550.4	494.0	-10.2
Computers, Peripherals and Semiconductors	8,341.6	11,058.0	32.6
Other Business Machines	2,414.0	2,458.4	1.8
Telecommunications Equipment	3,640.5	3,867.7	6.2
Scientific and Medical Equipment	864.8	982.3	13.6
Transportation Equipment	518.5	555.9	7.2
Civilian Aircraft, Engines and Parts	303.6	405.4	33.5
Automotive Products	33,733.5	32,765.1	-2.9
Cars	21,306.6	19,879.9	-6.7
Trucks and Special-Purpose Vehicles	4,961.2	3,733.7	-24.7
Automotive Parts, Engines, Bodies and Chassis	7,465.8	9,151.6	22.6
Consumer Goods	13,946.7	14,252.2	2.2
Nondurables	1,396.6	1,452.7	4.0
Apparel, Footwear and Household Goods	455.8	364.9	-19.9
Durables	12,410.7	12,638.7	1.8
Household Goods	1,938.8	1,788.7	-7.7
Recreational Equipment	3,434.6	4,201.3	22.3
Home Entertainment Equipment	6,448.5	6,046.2	-6.2
Video and Audio Recorders and Players and Stereo Equipment	4,068.8	3,563.6	-12.4
Gems, Jewelry and Collectibles	588.8	602.6	2.3
Intermediate Goods	8,046.4	8,585.0	6.7
Steel Mill Products	2,214.7	2,666.1	20.4
Nonferrous Metals	450.6	414.5	-8.0
Organic Chemicals	846.9	887.2	4.8
Textiles	755.5	675.0	-10.7
Food, Feed and Beverages	458.8	396.0	-14.7
Other Imports	813.0	980.0	20.5

Source: Department of Commerce

even stronger calls by opposing Diet members for Mr. Nakasone to testify. In order to prevent a cutoff of vital government services and subsidies, opposition parties agreed March 16 to let action proceed on 17 spending measures, including the stopgap budget. Even then, however, opposition parties agreed to vote on only 16 of the 17 bills. The disputed one, which covers various government subsidies, is set to be debated April 3-6. A showdown over whether Mr. Nakasone will testify is expected April 7.

Trade Task Force - Speaker of the House James Wright (D, Tex.) announced March 22 the selection of Rep. Richard Gephardt (D, Mo.) to chair the newly created Trade and Competitiveness Task Force. The task force will add another layer in Washington to those who are more closely scrutinizing American economic policies. Announcements about the new group state that it will "coordinate efforts" in the House that affect the trade position of the United States. The task force also is planning to track implementation of the Omnibus Trade and Competitiveness Act of 1988 in addition to those committees and subcommittees already responsible for oversight. Among other key items on the task force agenda is evaluation of the possible economic impact on the United States of high-definition television and the European Community's 1992 integration measures.

The new task force is comprised of 26 Democrats, including Rep. John Bryant (Tex.). A vote on a bill sponsored by Mr. Bryant (HR 5), which seeks registration of information regarding foreign direct investment in the United States, has been postponed possibly until May, Capitol Hill staffers say.

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The views expressed in this report are those of the authors and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

NO. 14B
April 7, 1989

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G-7 Fine-Tunes Currency Policies

Early April was a lovely time in Washington, perhaps particularly for the Group of Seven industrial country finance ministers and central bankers who met April 2 near Mount Vernon in suburban Virginia. Not only could they admire what nature had wrought, the group had reason to be pleased with its own handiwork. In contrast to the tumultuous exchange markets between 1985 and late 1987, currency markets were remarkably tame in 1988 and in early 1989. Many analysts credit the G-7 process for this happy result.

Of course, the officials did not lack problems to discuss. High on the agenda were the seemingly intractable Third World debt problem and the latest scheme to deal with it, the Brady Plan (see JEI Report No. 11B, March 17, 1989). Furthermore, the currency markets, while not veering out of control, were a renewed cause of concern.

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or 20.2 percent of all patents, followed by West Germany with 7,501 successful applications. Of greater concern was that Hitachi, Ltd. received the most U.S. patents of any company. Among the top 10 patent recipients, only International Business Machines Corp. and General Electric Co. prevented the United States from being shut out by foreign firms. For comparison, only 6.5 percent of all Japanese patents registered in 1987 went to foreigners, with the United States accounting for about half the total.

The statistics immediately led to rumblings from Congress about unequal patent systems. Senator J.D. "Jay" Rockefeller (D, W.Va.) revealed his frustration over the imbalance, observing that JPO officials keep "saying they're making improvements, but I'm getting tired of hearing that."

Whether Sen. Rockefeller's frustration will lead to retaliatory legislation is uncertain, but unlikely. PTO officials and representatives of large American businesses are increasingly optimistic that U.S. efforts in the Uruguay Round and WIPO will bear fruit. Since any fruit is likely to take a long time to ripen, however, the issue of intellectual property protection will remain on the U.S.-Japan agenda for some time.

Jon Choy

Notes

Distribution System - The multilayered, inefficient Japanese distribution system is changing, but the process remains painfully slow and uneven. That observation is underscored by the recently released preliminary results of the 1988 Census of Commerce. For example, the newest snapshot of retailing depicts a continuing move toward consolidation in the industry, although this streamlining is barely visible at the aggregate level since the total number of

Distribution Sector Indicators, 1982, 1985 and 1988

	1982	1985	1988
Retail Industry			
Number of Outlets	1,721,465	1,628,644	1,619,599
Retail Outlet/Wholesale Establishment Ratio	4.01	3.94	3.71
Number of Employees	6,369,000	6,329,000	6,850,478
Number of Employees per Outlet	3.7	3.9	4.2
Population per Retail Employee	18.6	19.1	17.9
Annual Sales (million yen*)	Y93,971,000	Y101,719,000	Y114,829,000
Annual Sales per Outlet (thousand yen*)	Y54,588	Y62,456	Y70,900
Annual Sales per Employee (thousand yen*)	Y14,754	Y16,072	Y16,762
Selling Space (thousand square meters)	95,430	94,507	102,096
Annual Sales per Square Meter of Selling Space*	Y984,711	Y1,076,312	Y1,124,716
Per Capita Sales*	Y791,481	Y840,313	Y935,242
Sales/Inventory Ratio	9.4	10.3	9.8

	1982	1985	1988
Wholesale Industry			
Number of Establishments	428,858	413,016	436,502
Number of Employees	4,091,000	3,998,000	4,331,681
Number of Employees Per Establishment	9.5	9.7	9.9
Population per Wholesale Employee	29.0	30.3	28.3
Annual Sales (million yen*)	Y398,536,000	Y428,291,000	Y446,423,000
Annual Sales per Establishment (thousand yen*)	Y929,296	Y1,036,984	Y1,022,728
Annual Sales per Employee (thousand yen*)	Y97,418	Y107,126	Y103,052
Wholesale/Retail Turnover Ratio	4.24	4.21	3.89

*The following average annual exchange rates can be used to convert the yen figures: 1982, Y249.08; 1985, Y238.54; and 1988, Y128.15.

Source: Ministry of Finance, Census of Commerce

Size Structure of Japan's Distribution Sector, 1982, 1985 and 1988

Retail Industry

	1982		1985		1988	
	Outlets		Outlets		Outlets	
Number of Employees	Number	Share	Number	Share	Number	Share
1-2	1,036,000	60.2%	940,000	57.7%	874,330	54.0%
3-4	413,000	24.0	408,000	25.0	422,025	26.1
5-9	188,000	10.9	190,000	11.7	213,999	13.2
10-19	54,000	3.1	58,000	3.6	70,382	4.3
20-29	15,000	0.9	15,000	0.9	19,183	1.2
30-49	9,500	0.6	10,000	0.6	12,249	0.8
50-99	4,500	0.3	4,800	0.3	5,361	0.3
100+	1,900	0.1	2,000	0.1	2,070	0.1
Total	1,721,465	100.0	1,628,644	100.0	1,619,599	100.0

Wholesale Industry

	1982		1985		1988	
	Establishments		Establishments		Establishments	
Number of Employees	Number	Share	Number	Share	Number	Share
1-2	100,000	23.3%	93,000	22.5%	95,340	21.8%
3-4	108,000	25.2	105,000	25.4	110,109	25.2
5-9	120,000	28.0	115,000	27.8	121,646	27.9
10-19	61,000	14.2	59,000	14.3	64,689	14.8
20-29	18,000	4.2	18,000	4.4	20,078	4.6
30-49	13,000	3.0	12,000	2.9	13,898	3.2
50-99	7,000	1.6	6,900	1.7	7,786	1.8
100+	2,800	0.7	2,700	0.7	2,956	0.7
Total	428,858	100.0	413,016	100.0	436,502	100.0

Source: Ministry of International Trade and Industry, Census of Commerce outlets declined by a mere 0.6 percent (9,000-plus units) between 1985 and last year, far short of the 5.4 percent (nearly 93,000 units) drop that occurred in the 1982-85 period. On closer inspection, however, it is clear that the swollen ranks of mom-and-pop stores are being thinned -- a major requirement for a more efficient retail industry. Almost 66,000 shops with one or two workers have gone out of business over the last three years on top of the 96,000 or so that closed their doors between 1982 and 1985.

This contraction together with an increase in the number of stores in every other size category helped to keep annual sales per outlet rising at a three-year rate in the mid-teens. At the same time, however, the growth in two productivity indicators -- annual sales per employee and annual sales per square meter of sales floor space -- was halved between the 1985 and the 1988 census years. This slowdown suggests that the days of easy efficiency gains are behind Japan's retail industry. Additional progress will take more than a further drop in the number of mom-and-pop shops and an increase in stores with three to nine employees. It will require the simultaneous growth of big and midsized retailers -- department stores, supermarkets, discount houses and specialty chains, but their expansion could be stymied without changes in government policies.

A more efficient Japanese distribution system also hinges on a reduction in the multiple tiers of wholesalers supplying the retail industry. On this score the 1988 commercial census was anything but encouraging. The number of wholesale establishments, which had declined 3.7 percent (nearly 16,000 locations) between 1982 and 1985, inexplicably increased 5.7 percent (well over 23,000 units) to a new record. What made this renewed expansion all the more disturbing was the fact that growth occurred across-the-board, both in terms of establishment size and products handled.

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The views expressed in this report are those of the authors and do not necessarily represent those of the Japan Economic Institute.

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JEI

REPORT

NO. 15A

April 14, 1989

PLANT AND EQUIPMENT SPENDING IN JAPAN

Summary

Japanese consumers and firms unintentionally have played the role of a remarkable duo in postwar Japan. Consumers saved, and firms invested in new plant and equipment. Over time both have benefited as the results of that investment have led to rising business profits and higher standards of living. During the early 1970s Japanese companies and consumers appeared a bit estranged; consumers kept saving almost the same percentage of their incomes, while by some measures firms reduced their rate of investment spending. Foreigners, including Americans, got caught up in the relationship as the surplus savings increasingly flowed out of Japan. Changes in Japanese government policy added more complexity as the public sector's net demand on the capital market changed over time.

But recent years may have seen a rapprochement between consumers and firms, with businesses increasing their plant and equipment spending at a rapid rate. To what extent can this reconciliation be expected to last? Or was there really an estrangement in the first place? This report provides some answers, focusing on capital spending by manufacturing and nonmanufacturing firms. Business investment has been remarkably healthy in recent years, contributing both a needed boost to aggregate demand and facilitating the shifts in industrial structure required as a consequence of the yen's appreciation. While a number of scenarios is possible, in coming years this spending growth is likely to decelerate compared to recent trends but with few negative consequences for the Japanese economy.

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Plant and Equipment Spending as an Engine of Growth

For at least 200 years economists have understood that by putting aside a portion of current production the output of future periods could be increased. If, for example, a society collectively produced a tractor rather than a larger amount of food, the machine could be used in future periods to produce more food than would otherwise be possible. This example also shows the close relationship between savings and investment; savings can be thought of as the excess of income over consumption. Since the proceeds from selling a good or a service end up going as income to someone (to investors as the return on committed funds, to the government as taxes, to workers as wages or to producers of the intermediate goods), the excess of production over collective consumption becomes investment to the exact extent that wage earners and others save rather than consume their income.

How the investment gets used is critical, of course. If the government invests in a battleship that gets destroyed in war, the future productive capacity of the economy gets no boost at all. If the excess of production over consumption ends up in involuntary additions to inventories, businessmen may cut production in future periods to adjust to actual levels of demand, pulling the economy down rather than up. Firms may invest in new machinery or even whole new factories that prove inefficient or unneeded, resulting in eventual abandonment. Investment overseas results in a claim on a portion of future production in foreign countries but does not add significantly to productive capacity at home. In all these cases, if the investment is a good one, the benefits go on for years. A well-built home can provide shelter and pleasure to its users for many decades. Public investment in roads and other facilities made in the time of the Roman Empire still are in use and providing benefits.

Many kinds of activity commonly labeled investment are not really investment in the sense that they make a claim on savings. A corporate raider "investing" in a company is not acting in a way that diverts production away from current consumption; he is not having plant and equipment built. In this sense, his action has less significance -- for good or bad -- than investment in a new factory or battleship, which does use real resources regardless of whether the result is needed. The raider merely is buying existing assets, much like an individual buys an existing home.

These examples suggest that all kinds of capital spending, whether public or private, may be productive. Nor does any sector have a monopoly on wasteful investment. But economists usually focus on business plant and equipment spending as having the closest link with future benefits, in part because those benefits can be measured directly in the form of increased future production that gets sold through markets.

Causes of Plant and Equipment Investment

Firms will invest in plant and equipment if it adds to their profits. Behind this simple statement are a host of considerations that make the decision an unusually complicated one.

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- What is the market for the product that the plant and equipment will produce? This involves looking at both the expected price of the product and the likely quantity of demand. For example, if an automaker builds a new factory, will the firm be able to sell the cars made at the new plant and, if so, at what price? Obviously, knowing existing levels of demand is not enough. Businesses need to know whether the product will sell once the plant and equipment come on-line. That can be months or even years away.

- What will the new plant and equipment cost? This has two dimensions. First, what is the interest rate, explicit if the company is borrowing the money, and implicit if it is using internal funds? Obviously, low rates of interest permit more potential projects to pass the profitability test. This interest rate criterion, however, is more complex than it seems. Inflation is one of many complications that could be considered. If inflation is anticipated, for example, the price of the goods produced, the resale price of the equipment and every other associated price and cost will be scaled up accordingly. Any nominal interest rate will be much less burdensome. Just the opposite has been true in Japan during the 1980s: extremely low rates of inflation have had the effect of keeping real interest rates relatively high and sometimes steeper than nominal rates. U.S. businessmen who salivate at the low nominal interest rates in Japan tend to forget this.

Second, what will the plant or equipment itself cost? If a bank is thinking of installing a computer to process financial transactions, the price of the computer is an important consideration. This factor, which analysts often have overlooked, can be critical. In Japan the cost of investment goods generally has been declining relative to other goods during the 1980s; this has made many more investment projects worthwhile.

- Does the company have adequate plant and equipment already? Obviously, if a firm has the appropriate capacity already in place, even low interest rates, favorable conditions for the product to be sold, and attractive prices for capital goods should not compel the plunge to buy new equipment. But determining appropriate capacity can be complicated. Changed conditions in the market may dictate new thinking about what is needed. Japanese carmakers, for example, invested heavily in 1988 in distribution facilities in Japan to meet the increase in domestic demand. This investment would have been necessary regardless of the extent of production capacity in Japan or elsewhere.

Conversely, worn-out or obsolete equipment can lead to a decision to increase investment spending, even in the absence of the other factors behind capital spending. In this case the firm may respond like the reluctant car buyer who eventually concedes that his or her clunker needs replacing immediately regardless of high prices or climbing interest costs.

These factors suggest that plant and equipment investment often will be subject to what is called a stock-adjustment process. Faced with a sudden shift in costs or demand, companies may boost funding for a whole series of projects that suddenly make economic sense. Similarly, a once-and-for-all surge in aggregate demand may lift overall investment spending dramatically, but temporarily, to expand capacity. In both cases, however, plant and equipment spending subsequently may fall rapidly even if low costs or high demand remain, simply because the list of attractive projects gets exhausted.

Effects of Plant and Equipment Investment

Once a firm does invest in plant and equipment, all kinds of effects are set in motion, some lasting only an instant, others persisting for years.

- The economy gets a boost. Workers are hired to build the machines, construct the buildings or whatever. With plant and equipment spending averaging about 20 percent of Japan's gross national product, the direct effect of an increase in business investment is substantial. A 10 percent boost, for example, could lead to about a 2 percent rise in GNP. If there had been a shortage of labor or materials, inflationary pressures could rise as the new activity spurs competition for resources with existing activities, reducing the gain in GNP. However, if unemployment is very high, this problem may not arise.

- A secondary boost to the economy occurs as the beneficiaries of the increased investment spend their incomes, with the same possible further consequences for inflation.

- The capacity of the economy will grow in the long run as plant and equipment come on-line. This has been one cause of the extraordinarily high growth of labor productivity in Japan compared to the United States. While U.S. labor productivity grew about 1 percent per year between 1978 and 1987, Japanese labor productivity, which is measured by a slightly different -- although not necessarily more optimistic -- yardstick, leaped ahead 3.1 percent a year.

- The technological level of the economy may rise depending on the nature of the investment. A semiconductor manufacturer, for example, may build a plant capable of producing a new type of computer chip that it could not have made in its older factories. An automobile manufacturer may install robots in a new plant that permits the production of cars in a different way than in existing plants.

Although technological progress and new plant and equipment often go together, they do not always. New production techniques can be introduced into existing plants. Likewise, new equipment may use the same technology as existing equipment. Or if the technology is new, it may be misused. General Motors Corp., for example, has been accused of showering money on new plants with state-of-the-art technology without fully understanding how to use it.

- The long-run effect of plant and equipment spending on employment is ambiguous once the employment-generating effects of the investment itself are exhausted. If aggregate demand remains high, economy-wide unemployment need not rise, but some workers may have more difficulty finding worthwhile employment if the investment eliminates their jobs. This implies that employment opportunities for some workers are likely to be enhanced as a result of the capital spending.

Plant and Equipment Investment in Japan: A Historical Overview

Postwar Japan has a reputation for remarkable rates of savings and, in parallel, high rates of investment. However, such has not always been the case. Clearly, investment has played a major role in Japan's postwar economy (see Table 1). Increased plant and equipment spending along with investment by the government in new infrastructure have helped boost the productivity of

Japanese workers and, at least in the long run, Japanese wages and the standard of living.

Table 1: Historical Trends in Gross Domestic Investment, 1930-86

(percent of gross national product or gross domestic product)

	Series A*	Series B**	Plant and Equipment**
1930-34	13.0%		
1935-39	18.3		
1940-44	18.0		
1946-49	13.2		
1950-54	24.6		
1955-59	29.3		
1960-64	38.4		
1965-69	35.7	33.8%	
1970-74	38.7	37.5	18.7%
1975-79		31.5	14.8
1980-84		30.0	15.3
1985-86		28.3	16.2

*Percent of GNP.
**Percent of GDP.

Note: The data in the first two columns refer to total investment, including that in the public sector and inventory investment by the private sector as well as the plant and equipment investment shown in the third column.

Sources: Kazuo Sato, "Saving and Investment" in Kozo Yamamura and Yasukichi Yasuba (eds.), The Political Economy of Japan Volume I: The Domestic Transformation (Stanford: Stanford University Press, 1987), p. 138 and the sources cited therein. For plant and equipment data and 1980-86 data, Economic Planning Agency.

During the mid-1980s a number of analysts noted a trend very apparent in the second column of Table 1. Investment appeared to be in a steady if slow long-term decline as a proportion of gross domestic product. (Gross domestic product omits from gross national product net labor and other earnings from abroad. As such it is the more appropriate base against which to measure investment.) A continuation of this trend would have had implications of particular importance to Americans. Coupled with a still high rate of savings and a gradual reduction of the government deficit, it would have created pressure for an ever bigger current account surplus as increasingly surplus Japanese savings turned to alternative investment outlets abroad.

To the extent that investment spurs growth, the apparent downturn in capital spending suggested that Japanese growth rates, already slowing, were likely to remain low or even drop further without the stimulus to both aggregate demand and supply provided by additional investment. In at least one respect, however, this conclusion has to be qualified. Business plant and equipment spending (column 3 of Table 1), arguably the most potent type of investment for generating economic growth, has not declined relative to GDP as much as gross domestic investment in general (column 2).

In one other important respect, moreover, the slide in investment through at least 1986 is not everything it appears. If investment goods become cheaper relative to the prices of other goods, percentages based on nominal GDP give a misleading picture of sluggishness compared to the rest of the economy. This point was emphasized by the congressional Joint Economic Committee in its 1988 report on the Japanese economy.[1]

Table 2 shows the importance of relative prices in discussing the trend in business investment. The first column, where yen-denominated gross national product is divided by the yen value of plant and equipment spending, shows that despite some ups and downs due to the business cycle capital spending generally has been less of a burden for the Japanese economy, at least until recently. As a consequence, more savings could be made available for investment abroad, other factors, such as the Japanese government budget deficit, being equal.

Table 2: Real Versus Nominal Plant and Equipment Spending, 1970-88

	Nominal Plant and Equipment Spending/GNP	Real Plant and Equipment Spending/GNP*	Change in Relative Price of Plant and Equipment**
1970	21.1%	18.8%	-5.5%
1971	19.1	17.6	-3.4
1972	17.5	16.6	-2.8
1973	18.5	17.7	-1.0
1974	18.4	17.0	4.4
1975	16.4	15.6	-3.4
1976	15.2	14.9	-3.0
1977	14.2	14.3	-2.9
1978	13.7	14.3	-3.4
1979	14.8	15.2	2.2
1980	15.7	15.7	2.1
1981	15.5	15.9	-2.8
1982	15.1	15.8	-1.8
1983	14.8	15.8	-1.8
1984	15.4	16.7	-1.8
1985	16.2	18.0	-1.8
1986	16.1	18.5	-4.2
1987	16.2	19.2	-2.5
1988(p)	17.4	21.0	-2.1

*1980 prices for plant and investment and GNP.
**Plant and equipment deflator minus GNP deflator.

Source: Economic Planning Agency

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[1] U.S. Congress, Joint Economic Committee, "Restoring International Balance: Japan's Trade and Investment Patterns," July 1988, pp. 15-18.

The second and third columns show what happens when plant and equipment and GNP deflators are applied to nominal capital spending and GNP, respectively. With few exceptions the relative price of investment goods, as measured by the difference in the plant and equipment deflator minus the overall GNP deflator, has fallen. This shows up in Table 2 as a series of negative entries in column 3. Taking the effect of price changes out of the ratio between plant and equipment spending and GNP (the second column) reveals that a virtually unchanging percentage of output has gone to produce investment goods. Indeed, the preliminary 1988 GNP figures suggest real investment as a percentage of real GNP hit a record last year among the periods covered by the table.

The figures in Table 2 have important implications. They suggest that the cost of obtaining new plant and equipment has been falling relative to other activities, thereby helping to prop up capital spending. In addition, the table helps to explain changes in Japan's current account. As investment demands on savings have fallen, savings may have sought outlets abroad. However, plant and equipment investment in real terms has continued to grow along with GNP, suggesting steadily expanding productive capacity. This, in turn, has led to still more GNP growth and, along with it, more savings and capital flows overseas. Another way to see this last point is that as the output of goods and services has grown only a portion of the increase has been consumed at home; the difference has been exported.

As noted earlier, aggregate demand is a powerful factor influencing plant and equipment investment. During the early postwar recovery years, capital found profitable use in expanding the output of goods and services. As the growth in aggregate demand slowed, the demand for new plant and equipment might have been expected to slow as well, other factors being equal. Yet plant and equipment spending did not fall off significantly. To see why, one more concept is necessary: the productivity of the investment itself. Economists of various political philosophies have agreed over the years that, as economies mature, additions to capital return less and less output. In part this is because the most profitable investment opportunities are the first to be taken; in subsequent years only the less attractive options remain.

Kazuo Sato of Rutgers University, in studying this question, in effect has divided the postwar Japanese economy into two periods. In the first one, which lasted from the 1950s to about 1970, firms faced a capital shortage and capital rationing, leading them to use capital as efficiently as possible. By the early 1970s the problem was a labor, not a capital, shortage. The emphasis then shifted to labor-saving expenditures, even if they meant less efficient use of capital. In Professor Sato's view, after this adjustment was completed by 1975, the capital-output ratio stabilized at a higher level.[2]

Using the same framework, Professor Sato argues that the capital-output ratio in Japan should fall in future years. He reasons that with the increasing importance of tertiary activities, which use less capital, the production of goods and services will outpace the relatively slow growth of capital spending. This change will occur in the context of slower overall economic growth, he says.[3]

[2] Kazuo Sato, "Saving and Investment" in Kozo Yamamura and Yasukichi Yasuba (eds.), The Political Economy of Japan Volume I: The Domestic Transformation, (Stanford: Stanford University Press, 1987), pp. 165-68.

[3] *Ibid*., p. 183.

The growth in the past two years casts some doubt on this prediction, at least over the medium term. As noted, the investment/GNP ratio reached a very high level in 1988. Furthermore, the growth of capital spending has been faster than that of output, raising the possibility that the capital-output ratio has risen, even though the tertiary sector has continued to grow relatively rapidly. Some believe that the Japanese economy has entered yet another new era that began shortly after the yen began appreciating in 1985. The factors influencing investment, and the likely productivity of investment, may be different than they were just a few years ago.

Plant and Investment Spending Since 1985

The upward spiral of the yen that began in 1985 convinced many analysts that the Japanese economy would go into a tailspin. Even relatively optimistic experts thought that growth probably would be more sluggish than in the years immediately preceding 1985, which in turn were characterized by a slowdown from earlier periods.

The last two years have proven virtually all these experts wrong. After dipping to 2.5 percent in 1986, the growth of real GNP recovered to 4.5 percent in 1987 and hit 5.7 percent in 1988. This expansion has occurred in the face of declining real demand for exports net of imports in all three years. Clearly, Japan's economy has undergone fairly rapid structural change, with export- and import-competing sectors losing ground -- and employees and investment funds -- to those industries producing goods for the domestic market and not facing foreign competition. Within export industries firms have scrambled to reposition themselves to produce for the domestic rather than the foreign market.

All this activity appears to have made companies willing to loosen the purse strings when it comes to plant and equipment spending, which has grown in real terms more than twice as fast as GNP in recent years (see Table 3). As shown in column 3, plant and equipment spending has been an important element in the expansion of aggregate demand, explaining a substantial portion of overall GNP growth.

Table 3: Private Plant and Equipment Spending and GNP, 1984-88

	Real GNP Growth	Real Plant and Equipment Growth	Contribution to GNP (percentage points)
1984	5.1%	11.5%	1.8
1985	4.9	12.7	2.1
1986	2.5	5.8	1.0
1987	4.5	8.0	1.5
1988 (p)	5.7	15.9	3.1

Source: Economic Planning Agency

Bank of Japan surveys show the varied purposes of investment by large manufacturing firms. The surveys seek to determine what motivates large companies to invest by asking them to allocate their plant and equipment spending into one of several categories. Among the results:

- A desire to invest in new capacity consistently leads the list, although it has declined in importance very slightly in recent years and accounts for far less than half of all plant and equipment spending decisions. From FY 1985 to FY 1988 the figure went from just over 30 percent to just under. The respondents predicted in February 1989 that in FY 1989 additional capacity would account for 30.6 percent of capital spending.

- In addition, firms say they are eager to "rationalize." This factor has accounted for about 20 percent of plant and equipment spending in recent years. Rationalize usually is taken to mean that companies want to cut costs in response to the greater difficulty they now have in competing in overseas or domestic markets. However, this factor has not risen in importance, although by all accounts competition has increased in recent years.

- The importance of research and development investment and new product development has increased steadily, rising from about 15 percent of the total in the early 1980s to an expected 24.1 percent in FY 1989.

- Energy savings and other factors are expected to account for 25 percent of all plant and equipment spending in FY 1989, down from 27 percent in FY 1988.

Even at relatively high levels, however, corporate fixed investment in manufacturing does not necessarily lead to corresponding increases in productive capacity. The index of production capacity for manufacturing firms verifies this assertion. It grew only 5.8 percent between 1982 and 1985 and 3.5 percent between 1985 and 1988 despite high levels of plant and equipment spending, especially in the latter period. The most recent data indicate, however, that capacity expansion might be accelerating. The index grew 1.3 percent in the year between January 1988 and January 1989.

The rapid growth in capacity would meet a rising need. Seasonally adjusted operating indexes for manufacturing plants have climbed steadily since hitting bottom at 91.5 (1985=100) in November 1986, reaching 104.4 in January 1989. By adding new capacity -- with possible labor savings built in -- firms may be in a better position to cope with continually tightening labor markets.

Explaining the Recent Spurt

Something has happened to plant and equipment spending in the past two years. Growth in 1988 was a remarkable inflation-adjusted [illegible].9 percent, lifting it substantially as a percentage of GNP. What accounts for this growth? Generally, there has been a confluence of forces identified earlier.

- Investment has responded with vigor to both income and price effects. Increased aggregate demand has led to a more-than-proportional expansion in plant and equipment spending. In addition, the drop in relative prices of plant and equipment goods has continued over the past several years, making increased spending look comparatively cheap.

- Structural shifts in the economy arising out of the yen's appreciation have created new investment needs. In many cases domestically oriented plant and equipment has replaced rather than supplemented foreign demand-oriented facilities. This partly explains why capacity expansion has not been greater.

- Nominal interest rates have dropped to a low level in response to the Bank of Japan's expansionary monetary policy. Particularly for companies that believed the expansionary policy would lead eventually to higher inflation rates, the opportunity seemed ripe to invest and, if possible, lock in the low rates before nominal rates climbed along with rising price levels. Put differently, from the firms' perspective, BOJ's policy led to a temporary drop in expected real interest rates that was even greater than the drop in nominal interest rates.

- Japan's firms have moved to replace plant and equipment, which at least until recently had been aging. According to calculations by the Economic Planning Agency, between 1974 and 1986 the average age of the capital stock of corporations in all industries increased every year, reaching 7.72 years on average in 1986, an increase from 6.3 years in 1973. In 1987, however, the average age decreased slightly for the first time since before the initial oil shock of 1973-74.[4]

Future Plant and Equipment Spending

Surveying capital spending in Japan is a popular endeavor. At least three government agencies, several banks and the daily Nihon Keizai Shimbun make surveys of investment plans by industry, usually updating the surveys several times a year. They generally confine their coverage to relatively large firms. Nihon Keizai Shimbun, for example, surveys firms accounting for about one-quarter of total investment. Table 4 contains summaries of some of the recent surveys and shows varying results for both past spending patterns and expected future spending, a difference that probably reflects the fact that some surveys sample more firms than others.

Table 4: Surveys of Plant and Equipment Spending

	Most recent survey	Number of firms	FY 1986 (actual)	FY 1987 (actual)	FY 1988 (estimated)	FY 1989 (forecast)
Bank of Japan	2/89	648	-0.9%	1.7%	17.9%	6.0%
Nihon Keizai Shimbun	2/89	1,346	-0.7	1.1	14.9	6.8
Japan Development Bank	2/89	2,351	3.1	4.4	18.8	6.4
Economic Planning Agency	12/88	4,082	1.8	7.8	22.8	n.a.
Nominal Plant and Equipment*	n.a.	n.a.	1.5	7.2	13.3	8.4

*GNP basis. The FY 1988 and FY 1989 figures are based on the government's economic outlook for FY 1989, which was announced in January 1989.

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[4] Economic Planning Agency, Keizai Hakusho (1988 Economic White Paper) (Tokyo: Okura-sho Insatsu-kyoku, 1988), pp. 316 and 543.

More comprehensive surveys, such as those conducted by the Economic Planning Agency, assign more weight to the intentions of relatively small firms and therefore generally come closer to the actual GNP figures for nominal plant and equipment spending shown on the last line of Table 4. All the surveys tend to agree, however, that plant and equipment spending will grow more slowly in FY 1989 than in FY 1988, although it will remain healthy.

In FY 1988 firms continually upgraded their investment plans. For example, in February 1988 the firms responding to the BOJ survey said they planned to hike spending 3.6 percent in FY 1988 over FY 1987. But in May they boosted this figure to 10.5 percent, in August 14.3 percent and in November 18.1 percent. As the fiscal year was drawing to a close in February 1989, they estimated the increase over FY 1987 at 17.9 percent.

For all their differences the surveys show a similar pattern of changing investment by industry. In FY 1986, as manufacturing firms reeled under the impact of the strong yen, they cut their capital spending on average from FY 1985 levels. Nonmanufacturing firms, in contrast, eked out a small gain. In FY 1988 manufacturers increased spending more than nonmanufacturers and by enough to lift spending well above FY 1985 levels.

Figures from the EPA survey tell the story as well as any. In FY 1986 total investment was up 1.8 percent, but 5.6 percent lower in manufacturing and 7.5 percent higher in nonmanufacturing. Export-oriented industries were the hardest hit; capital spending in the precision instruments industry, for example, dropped 8.7 percent. In FY 1987 the pattern persisted: as economic growth picked up, manufacturing companies continued to hesitate, trimming their plant and equipment spending another 1.3 percent below the depressed levels of FY 1986. Nonmanufacturing businesses, by contrast, increased their spending again, this time by 13.9 percent. In FY 1988 manufacturing firms finally came roaring back, with plant and equipment spending expected to be up a whopping 28.9 percent, although equipment in nonmanufacturing continued to be very strong, with an expected 19.2 percent increase.

A rerun of FY 1988 is expected in the new fiscal year in terms of manufacturing and nonmanufacturing investment. Capital outlays in manufacturing are expected to grow more rapidly than in nonmanufacturing in every one of the surveys summarized in Table 4. For example, in the BOJ's FY 1988 survey, manufacturing plant and equipment spending outpaced that in nonmanufacturing, growing an estimated 28.6 percent against 8.6 percent. In FY 1989 the pattern will be the same: manufacturing investment is tabbed to grow 8.1 percent, nonmanufacturing 2.9 percent.

Table 5 shows the results broken down by industry for Nihon Keizai Shimbun's February 1989 survey. Excluding the largest industry in manufacturing, electric machinery, and the biggest in nonmanufacturing, electric power, reduces the year-to-year variation in rates of growth. Together, these two giant industries account for more than one-third of total spending in the Nihon Keizai Shimbun surveys and somewhat less in more comprehensive surveys.

In short, the surveys reveal a pattern of structural change strongly influenced by the value of the yen in international currency markets. The initial reaction of manufacturers, those most adversely affected by the rise in the Japanese currency that began in FY 1985, was to cut capital spending. By contrast, those industries feeling less negative impact saw an opportunity to

Table 5: Plant and Equipment Spending by Industry, FY 1988 and FY 1989

(percent change compared to previous year)

	FY 1988 (estimated)	FY 1989 (projected)	FY 1989 Share of Total Plant and Equipment Spending
All Manufacturing Firms	28.6%	13.3%	49.1%
Excluding Electric Machinery	25.3	21.9	36.9
Food	50.6	25.9	4.6
Textiles	29.5	3.5	1.7
Paper and Pulp	27.2	10.4	2.3
Chemicals	10.8	21.4	5.5
Pharmaceuticals	11.4	17.1	1.1
Petroleum	0.3	32.4	1.2
Rubber	28.5	15.4	0.7
Glass and Stone	41.8	14.0	1.7
Steel	8.7	15.8	3.9
Nonferrous Metals	41.7	9.0	2.0
Nonelectric Machinery	37.9	16.5	2.0
Electric Machinery	38.6	8.9	12.2
Ships	17.2	1.7	0.7
Motor Vehicles	24.4	11.2	6.8
Other Transport Equipment	21.1	7.0	0.2
Precision Instruments	58.1	1.9	1.1
Other Manufacturing	34.5	9.5	1.4
All Nonmanufacturing Firms	5.2	1.2	50.9
Excluding Electric Power	19.8	10.0	29.4
Fisheries	-60.6	35.7	0.0+
Mining	-21.6	5.4	0.2
Construction	10.9	6.4	2.4
Trading Companies	18.4	0.1	1.0
Retailing	38.6	21.2	2.9
Real Estate	5.7	10.3	2.7
Railroads and Buses	25.9	5.8	3.4
Other Land Transportation	28.8	12.8	0.9
Sea Transportation	8.7	-21.5	0.5
Air Transportation	-0.9	11.2	0.9
Warehousing	49.8	25.1	0.5
Communications	-4.0	-0.9	11.1
Electric Power	1.5	-3.5	21.5
Gas	19.0	5.6	1.7
Services	31.5	16.8	1.2
Total	14.9	6.8	100.0

Source: Nihon Ke'zai Shimbun

profit from the higher real purchasing power being put in Japanese consumers' hands and increased their spending. Eventually this benefit of the strong yen spread even to the more export-oriented manufacturers, which now are raising investment spending rapidly.

Outlook

The surveys clearly point to continued strength in plant and equipment spending. If they are right, fixed business investment will remain a linchpin of economic growth, even if the only result is to boost aggregate demand. Forecasters also expect consumer spending to be healthy, rising faster than the growth of GNP (see JEI Report No. 9A, March 3, 1989). If both the investment and the consumer spending forecasts are correct, the economy will continue to grow rapidly and in balanced fashion: the increased plant and equipment spending will add capacity just when needed to meet expanding consumer demand. As an added benefit, the new capacity will be different than the older capacity, designed to meet the needs of the domestic as opposed to the foreign market. Furthermore, business investment again might play the role it did in the 1970s, helping offset an incipient labor shortage, thus reducing inflationary pressures.

The problem for the economy is that the balance between capital spending and aggregate demand is increasingly precarious and may tip either way depending on several factors. Plant and equipment spending can be a dangerous means of sustaining an economic expansion. Should consumer spending not materialize in the expected way -- and the evidence from the last three months of 1988 and the first two of this year is not encouraging -- then some of the new plant and equipment could prove unnecessary. Should this happen, future spending plans could be revised sharply downward. This, in turn, would have two consequences. First, with plant and equipment spending now representing close to 20 percent of GNP, the deflationary impact on the economy would snowball, reducing still further consumer demand relative to expectations. Second, the resulting downward pressure on real interest rates would weaken the yen and reinforce the temptation of Japanese firms to sell their products abroad. This, of course, could lead to a larger trade surplus, the very opposite of what policymakers in Tokyo and Washington have been trying to accomplish.

Factors identified earlier increase the likelihood of this scenario. Just as investment has grown in accelerated fashion in response to the economy's growth since 1987, it could decelerate as rapidly. Furthermore, the influence of low interest rates, which have been another positive cyclical factor, may be about over, suggesting a decline in investment spending, other factors being equal. Adding to the slowdown would be the concurrent reversal of long-term factors, such as the need to replace an aging capital stock, which has been yet another positive influence in recent years.

However, the investment supply-aggregate demand balance may tip completely the other way. If plant and equipment spending soars above the optimistic levels now expected and consumer demand simultaneously strengthens, the economy could develop extraordinary levels of aggregate demand that the new plant and equipment spending may not alleviate, either because it would come onstream too late or because it would be designed for other purposes, such as expanded research and development needs. In this case, the Bank of Japan's nightmare, inflation, could come to the forefront. Of course, BOJ has been warning of this scenario for the better part of a year and the dreaded price increases have yet to surface in a significant way.

Some combinations of these extreme cases would be benign for the Japanese economy. Even if consumer spending fails to ignite, continued strong investment spending could pick up the demand slack. If capacity growth is modest, then all that might happen is a return to normal operating rates in Japanese manufacturing, which have been at high levels. This "soft landing" scenario is the most likely. If it materializes, the Japanese economy will emerge with a strengthened research and development capacity, substantially more modern facilities and little problem of serious inflation. Although this scenario is consistent with some intermediate-term reduction in the trade surplus, over the long term Japan's surplus would rise. Within several years, an increasingly competitive Japanese economy would result, and the capital that eventually would be freed up for overseas investment would work to make Japanese financial firms -- in addition to exporters -- an even more imposing presence in foreign markets.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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CHALLENGES TO JAPAN'S HEALTH INSURANCE SYSTEM

Summary

After nearly 30 years of universal health insurance Japan has reached a stage of good health for its citizens without a great drain on its economy. Although concerns about the rapidly aging society and increasingly costly medical interventions are assailing the financial overseers of Japan's health planning, the systematic approach to insurance appears to give the government a way to control at least one aspect of health spending through strict regulation of insurers' involvement.

Despite its stalwart state, however, Japan's health insurance coverage has some built-in frailties, including a closed, subjective medical system that encourages entrepreneurial competition among providers whose commodity -- health care -- tends not to be priced according to the laws of supply and demand. Whether these frailties carry the germs that can upset Japan's history of improving medical care and containing costs remains to be seen. Japan, however, has been plotting a course to address concerns about the greater number of health care-consuming elderly, the higher costs of technology and even the threat of such diseases as acquired immune deficiency syndrome, which, as yet, poses only a minor drain on national insurance resources.

Concern for Health

Japan's system of universal health insurance may be one more reason for the United States to wonder whether new lessons can be learned from its economic rival. The improving health picture between 1961, when Japan began to offer health insurance coverage to all those not covered by dint of their own work or the head of household's job, and the present owes more to improved economic conditions and worldwide advances in medicial science, obviously, than to health insurance coverage. Yet the insurance system is thought to have been a factor in helping Japan overtake Sweden, which has socialized medicine, as the country with the world's longest life expectancies -- 75.2 years for men and 80.9 years for women as of 1986. (The U.S. figures that year were 71.3 years for men and 78.3 years for women.) Assurance of access to care also may be linked with Japan's low infant mortality rates, among the lowest in the world at 5.2 deaths per 1,000 births. (In America that figure stretches to 10.6 deaths per 1,000 births.)

As the world's health has improved through medical discoveries that have helped tame acute diseases as the main causes of death, chronic diseases -- often linked to lifestyles -- have become the main focus of medical attention. Japan, where the number-one killer is cancer, is no exception. A cross-cultural study by the World Health Organization showed that Japan's 1985 death rate from stomach cancer, 42.9 per 100,000, was far higher than in other industrialized countries. The second highest rate was in Portugal, at 28.2 per 100,000. A survey released in February by the Health and Welfare Ministry linked the high rate of stomach cancer to consumption of food rich in salt and spice. Similar dietary links are blamed for the second main cause of death in Japan, heart disease. The Social Insurance Agency in 1986 attributed the rising incidence of heart problems on westernized eating habits, including a larger amount of fat in the diet, plus less exercise, increased weight and a more stressful lifestyle.[1] The fact that problems from hypertension bring about the third-ranked cause of death may reflect one more aspect of Japan's industrialization: the greater stress and associated complications from sedentary work and typically long, crowded commutes. There also have been increasing reports of mental illness in recent years, but whether this is connected with industrialization or increased public awareness of mental health is problematic.

Additional factors that might make Western observers wonder at Japan's favorable health statistics include a population in which 63 percent of the men smoke yet death rates for lung cancer, emphysema and related lung disorders remain lower than in many nations. The frequent drinking excursions expected of businessmen after work also might raise questions about alcoholism, yet cirrhosis of the liver as a major cause of death affected about the same number in Japan (15 per 100,000 people in 1985) as in the United States (13.2 per 100,000 in 1983) and far fewer than in either France (24.7 per 100,000 in 1984) or West Germany (26.9 per 100,000 in 1985).[2] While the opportunities to abuse good health are as abundant in Japan as in other nations, the Japanese appear to

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[1] Social Insurance Agency, Outline of Social Insurance in Japan, 1986 (Tokyo: Japan International Social Security Association, 1987), p. 7.

[2] World Health Organization data in Statistical Abstract of the United States 1988 (Washington, D.C.: Government Printing Office, 1987), Table 1382.

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have maintained their health with a combination of awareness, a distrust of invasive medical procedures and a heavy reliance on preventive care.

The well-informed Japanese have a generally high degree of health consciousness, some might say an inordinate degree. For example, although about 60 percent of the respondents to government-sponsored opinion polls in recent years have said they were healthy, the most recent poll reported in March 1989 that the 26 percent who said they were in great health this year was only half the number recorded in previous years. In other national attitude surveys health consistently has ranked among the top concerns of a majority of respondents. This awareness of health matters also can have a downside in that those worried about illness may seek more medical attention. Of those responding to a 1980 survey, for example, only 1.3 percent said they had not received medical care during the year, although seven out of 10 said they considered themselves to be in good health.[3]

Studies in the United States have shown that free medical care for adults has encouraged greater use without greatly improving health status. Japan's health care no longer is free; the government has instituted partial payment by all but the most elderly (or bedridden) patients in order to curb any tendency toward abuse of the system. However, the cost of care remains generally low per person. The national per person health expenditure in 1986, for example, was $831 in Japan, compared with $1,926 in the United States and $1,370 in Canada, which also has a national system of health coverage. The low cost of obtaining medical care in Japan together with an emphasis on prevention may help to avert chronic problems. One example of this is in prenatal care.

The Japanese point out with pride that the availability of care starts as soon as a mother-to-be learns she is pregnant. Prenatal screening is encouraged through the use of a record book that the expectant mother receives at her first visit and then fills in on subsequent visits. Once the child enters society, either the government or private insurers cover future medical costs except those, ironically, for preventive health care. Equally ironic, a normal childbirth is not covered by actual health insurance, although the insurance programs that otherwise would give medical coverage provide supplemental benefits that help cover the cost of birth and that also cover maternity leave in the case of working mothers. As a measure of the importance of prenatal screening, many blame the relatively high U.S. infant mortality rate on the expectant mother's failure to visit a doctor early in her pregnancy. One estimate says 26 percent of American women of child-bearing age have no maternity coverage.[4] This is a problem particularly among the poor who must rely on often overburdened community programs or on physicians in poor neighborhoods who quickly fill their quota of patients under Medicaid (the federal-state health insurance program for the very poor).

[3] William E. Steslicke, "The Japanese State of Health" in Health, Illness and Medical Care in Japan: Cultural and Social Dimensions, eds. Edward Norbeck and Margaret Lock (Honolulu: University of Hawaii Press, 1987), p. 34.

[4] Victor Cohn, "Pay More, Get Less: New Crisis in Medical Benefits," Washington Post Health, November 15, 1988, p. 19.

Other possible factors in Japan's overall picture of good health include the absence of great income disparities, high educational levels and a low degree of inner-city problems -- drugs, homelessness and unwed mothers. Some cultural anthropologists also contend that a traditional emphasis on cleanliness has promoted hygienic behavior that helps cut down transmission of disease.

Awareness, low cost, cultural factors plus advancements in medical science and living standards have enabled Japan to reach a point where those overseeing health care no longer are as concerned about access to care and the quality of service as they are about controlling costs. A study by the Organization for Economic Cooperation and Development indicates that Japan stood at the forefront in increasing its health expenditures per capita between 1970 and 1984, a time of great economic growth. While the United States spent more per capita on health than Japan in 1984 -- $1,637 per person compared with $818 adjusted according to purchasing power parities -- the average annual 1970-84 growth rate showed the United States lagging with a rate of 11.3 percent compared to Japan's growth of 13.4 percent. These figures were 2.7 percentage points and 3.2 percentage points, respectively, higher than the growth in gross domestic product per capita during the same time frame (see Table 1). Other figures that are not adjusted for purchasing power parities suggest Japan spends less of its GDP on medical care than the United States -- an estimated 6.7 percent in 1986 compared with America's 11.1 percent that year.

Yet expenditures in Japan are growing fast enough that policymakers are looking at ways to contain them. Two areas usually scrutinized for cost-control are the systems of payment and delivery. In Japan the cost of medical care for fiscal year 1989, which started April 1, is expected to increase 5.7 percent. (Forecasters put the U.S. increase this year at 9.1 percent.) The estimated cost of medical care per person in Japan for the year is set at Y162,000 ($1,296 at Y125=$1.00). This compares with a cost in 1980 of Y102,300 per person ($451 at 1980's average exchange rate of Y226.74=$1.00). Both the government and employers and employees who contribute to insurance programs have an equal interest in keeping premiums low and costs down. They all benefit in keeping the insurance structure well-regulated. Government oversight of basic health insurance virtually denies a role to third-party reimbursers, although they may provide supplemental insurance.

Comparison of U.S. and Japanese Health Insurance Programs

In contrast to the complicated insurance choices available in the United States for the 86.7 percent of the population obtaining coverage -- health maintenance organizations, preferred provider organizations, private pay or a variety of private health insurance programs plus government-funded Medicare and Medicaid -- Japan's universal system is simpler, at least in that it offers less choice. Payment for basic care is made either through one's workplace or by a locally imposed levy.

In Japan the national government's first program of job-related coverage came under the 1922 Health Insurance Law, which covered miners and laborers. (The law actually took full effect about 1927.) And in 1938 local governments began providing insurance to those engaged in farming, forestry and fishing. With the revision of the National Health Insurance Law in 1961, the central government entered into the somewhat precarious financial role of coordinating and guaranteeing insurance benefits for all.

Table 1: OECD Members' Per Capita Health Spending and Gross Domestic Product, 1970 and 1984

(U.S. dollars at GDP purchasing power parities and current prices)

Country	1970		1984		Compound Annual Growth Rate, 1970-84	
	Total Health Spending Per Capita	GDP Per Capita	Total Health Spending Per Capita	GDP Per Capita	Total Health Spending Per Capita	GDP Per Capita
Australia	$232	$4,040	$994	$12,679	11.0%	8.5%
Austria	163	3,056	818	11,345	12.2	9.8
Belgium	147	3,652	777	12,439	12.6	9.1
Canada	322	4,452	1,275	15,198	10.3	9.2
Denmark	252	4,147	841	13,310	9.0	8.7
Finland	183	3,280	806	12,217	11.2	9.8
France	223	3,685	1,145	12,643	12.4	9.2
West Germany	220	3,993	1,079	13,265	12.0	9.0
Greece	70	1,756	287	6,300	10.6	9.6
Iceland	288	3,382	1,045	13,238	9.6	10.2
Ireland	122	2,196	622	7,795	12.3	9.5
Italy	171	3,093	725	10,093	10.9	8.8
Japan	141	3,189	818	12,419	13.4	10.2
Netherlands	232	3,881	1,011	11,710	11.1	8.2
New Zealand	--	--	595	10,601	--	--
Norway	191	3,083	965	15,367	12.3	12.2
Portugal	--	--	275	5,021	--	--
Spain	102	2,473	476	8,279	11.6	9.0
Sweden	359	4,976	1,445	15,434	10.5	8.4
United Kingdom	161	3,563	658	11,068	10.6	8.4
United States	366	4,826	1,637	15,357	11.3	8.6

Source: Organization for Economic Cooperation and Development, Financing and Delivering Health Care: A Comparative Analysis of OECD Countries (Paris, 1987), p. 56.

Coverage actually involves cost-sharing by the receiver of care, employers where applicable, and the national or the local government. Physicians agree to accept as payment the fees determined by a special government council. The insurance agent -- be it the government or a special group -- varies, depending on whether the insuree works or not and where he or she works. No matter what the program, each health care user is expected to pay at least 10 percent of each visit, up to a maximum per month of Y54,000 ($432) per illness. Those over age 70 or between ages 65 and 70 if they qualify for disability are exempted from the 10 percent cost-sharing but pay Y800 ($6.40) a month for any outpatient services they use and Y400 ($3.20) a month for any inpatient care. Dependents may have to pay up to 20 percent of the cost of inpatient services or 30 percent of outpatient services. Copayments are made when care is delivered. Premiums go into either a work-based fund or a government-run operation. Between premiums and copayments each person will pay an estimated 13 percent of the overall cost of care (estimated to be $1,296 per person in FY 1989). The health care providers submit the remaining charges monthly to a central clearinghouse, which examines them for accuracy and appropriate treatment, then forwards approved bills to the insurance group covering the patient.

In contrast, U.S. programs for service and reimbursement run the gamut. Costs for insurance alone -- not overall medical payments -- ran $1,837 per insuree in 1986. This included cost-sharing (similar to the Japanese model), which usually involves paying premiums to some type of insurance organization (Blue Cross, Blue Shield or private insurers) through the workplace and receiving 80 percent or more coverage of specified benefits. The insured pays the remainder or possibly buys supplemental insurance independently to help cover costs. Employees at some businesses, however, might join a health maintenance organization, which offers benefits to a group for a fixed per person sum each month. The employee usually contributes to the premium and may face a slight, fixed charge per visit at a specified medical facility.

Similar to HMOs are preferred provider organizations, which operate through group practices. Both HMOs and PPOs seek cost-savings by offering packages to employers and trying to limit the costs of services either by providing broad-based coverage to a large group that is expected to have low use rates or by relying on strict controls to obtain lower operating costs. The idea of serving populations with low use rates (for example, the young rather than the elderly afflicted with chronic health problems) often is criticized since it leaves higher-cost patients either to private insurers that charge the patients more or to government-run programs, such as Medicare, which covers people over 65 and the disabled, or Medicaid, which insures very low income citizens through state and federal government subsidies.

As Medicare costs have climbed, both individuals' premiums and the government's financial burden have increased. And one of the complaints about Medicaid is that states have leeway to set stricter criteria for coverage; those that are less restrictive face higher costs if the unemployed or working poor gravitate there. The federal government also has arranged with hospitals receiving public funds to provide services to the uninsured poor, but hospitals routinely use their set-aside funds for such care before the budget year ends. In these cases, charges of "dumping" raise concerns that those who are dedicated to offering health care turn away desperately ill but impoverished people. The U.S. government has yet to come up with a solution for meeting health care coverage for those unable to pay in a system that provides care with an eye to the bottom line. The safety net in Japan, however, is broad.

An Organized Approach to Health Insurance

As stated above, most Japanese pay into some type of insurance fund based on their work. The unemployed, the self-employed and the retired gain coverage under plans operated at the local government level. In all cases the national government bears the administrative expenses of the programs. In addition, Tokyo provides a subsidy of 16.4 percent to corporate self-insurance programs for medical care and other benefits. The government also underwrites a 16.4 percent share of day laborers' insurance benefits and contributes 50 percent of the medical care benefits offered through municipalities and 32 to 52 percent of those available through the other alternative at the local level.

All this outflow adds up. Total government expenditures on medical care in FY 1987, for example, were Y22.7 trillion ($163.8 billion at FY 1987's average exchange rate of Y138.35=$1.00), which compares to the Y12.2 trillion spent in 1980 ($53.8 billion at 1980's average exchange rate) before the advent of a special health insurance fund for the elderly. These funds flow through a system of channels described below.

Health insurance societies - Companies that employ more than 300 people may establish their own health insurance plan or join in sponsoring one with other firms in the same line of business. (The Health and Welfare Ministry has the option of requiring firms that employ 500 or more to set up such a program.) An estimated 29.9 million people (24.5 percent of the population), including insured workers' dependents, had this type of coverage in 1987. Insurance premiums for this program are to be divided evenly, but the employee generally pays slightly less than the employer; a typical contribution is 3.5 percent of monthly pay from the employee and 4.6 percent from the employer. The premium is calculated from one of 39 monthly pay grades, ranging from Y68,000 ($544) for a possible worker contribution of Y2,380 ($19) a month to Y710,000 ($5,680) of which the worker might pay Y24,850 ($199) a month. The calculations may or may not include bonuses, depending on whether the bonus is paid at regular intervals of less than three months. People insured under these plans have better benefits (for example, 90 percent coverage for workers but between 70 and 80 percent for dependents) than those covered under the insurance schemes offered at the local government level (see below).

This regulated format contrasts with the leeway available in U.S. corporations. American employee contract negotiators are beginning to consider health benefits as significant a component of the compensation package as salaries or wages. Given that employers pay an estimated 80 percent of private health insurance premiums, the rising costs of health care and the jumble of plans available pose both a financial and administrative concern to business. One benefits consulting firm estimated that the average cost of providing employee health benefits rose 18.6 percent last year to $2,354. Another estimated the jump in employers' costs for group medical plans at 13 percent. Overall, the U.S. consumer price index for medical care rose about 6.2 percent in 1988, while the inflation rate increased just 4.4 percent.

Government-managed health insurance - Covering an estimated 26.7 percent of the population (32.6 million people in 1987), government-managed health insurance relies on the national government to be the intermediary handling premiums from those employed by small and medium-sized firms. As of April 1987 the premium rate of 8.3 percent of the insured person's monthly pay was to be split equally between the insured and the employer. The worker pays 10 percent of actual medical costs (up to the monthly Y54,000 -- $432 -- limit), while dependents covered by the plan pay 30 percent for outpatient care and 20 percent for institutional care.

Day laborers - Construction workers and others hired by the day (about 0.1 to 0.3 percent of the population) are assessed premiums, too. The employer buys a special stamp from the postal service, places it on the laborer's own insurance ledger and cancels it. The employer also is authorized to deduct from pay the costs of the premiums, which vary according to the wage. Those paid the least, up to Y1,500 ($12) a day, are assessed Y140 ($1.12), of which they might pay 60 percent and their employers pay the remainder. Those day laborers earning Y17,000 ($136) or more face daily premiums of Y1,970 ($15.76), of which the hiree covers about 62 percent. The percentages paid by both parties are fixed. The rates listed above were valid for FY 1986.

Seamen's insurance - Crews on defined vessels (accounting for approximately 0.5 percent of the population) receive their coverage from the Seamen's Insurance Society. Similar to other employer-based coverage, these plans call for slightly lower premiums of 8.2 percent of the insured's monthly pay and require joint contributions from worker and employer.

Mutual aid associations - Both those in the national and the local governments' employ have mutual aid associations, as do private school teachers and employees. Approximately 10.4 percent of the population receives coverage from MAAs, which have the same premium requirements as mentioned above for seamen's insurance.

Community-based insurance - Also called National Health Insurance, this program covers all those nonelderly not mentioned above: the self-employed, like farmers and doctors, and employees of small businesses not falling under government-managed insurance, for example. The insuring agencies in this scheme are either municipalities (covering roughly 35 percent of the population) or National Health Insurance Associations (insuring about 3 percent). Unlike employer-based health insurance, the community program pays 70 to 80 percent of care costs for both the insured and dependents. Benefit packages may be less since the insurers are allowed to decide the contents of each package. Each household or self-employed person is responsible for covering the premium, which is set according to income, property and the number of people to be covered. The maximum annual charge per household is Y390,000 ($3,120). The premiums are levied like a tax.

Insurance for the aged - The rising costs of caring for unwell elderly prompted a realignment of coverage in which the national government pays one-fifth, local governments (prefectures and municipalities) pay one-tenth and group insurers pay seven-tenths. The contributions per entity are shown in Table 2. As mentioned above, those over age 70 and those between ages 65 and 70 who meet disability criteria pay only a fixed per-illness charge each month if they visit a physician. Caps on hospitalization, however, have been instituted to prevent warehousing of bedridden elderly in a hospital (see below).

In contrast to this defined approach to meeting the health care needs of senior citizens, the United States has a haphazard system of coverage that is relying more and more on the Medicare program, which offers hospitalization and

Table 2: Ratio of Contributions to Health Insurance for the Aged, 1985

Insurer	Costs (Y million)	Ratio
State Subsidy	Y120,210	29.6
National Government	80,140	19.7
Prefectural Government	20,040	4.9
Municipal Government	20,040	4.9
Group Insurers	280,490	69.0
Employees' Insurance	130,990	32.2
Government-Managed Health Insurance	61,400	15.1
Health Insurance Associations	45,730	11.2
Day Laborer Special Insurance	860	0.2
Seamen's Insurance	1,230	0.3
Mutual Aid Associations	21,760	5.4
National Health Insurance	149,500	36.8
Paid by Patients	6,030	1.5
Total	406,730	100.0

Source: Ministry of Health and Welfare, Investigation Department of Health for the Aged, "Outline of Social Insurance in Japan, 1987," p. 51.

physician services to those over age 65 and the eligible disabled. Health researcher John Iglehart writes in The New England Journal of Medicine that by shifting more of the burden for insuring the elderly to employer-based plans, Japan has demonstrated it "is more willing than the United States to impose policies on employers that are deemed to reflect their legitimate social obligation -- in Japan's case, requiring employers and employees to shoulder a greater proportion of the cost of care for the elderly."[5] Recent controversy over a U.S. law that went into effect this year indicates some companies may prefer to cancel their medical insurance for retirees -- thus putting more strain on Medicare -- rather than follow the law's dictates and count the costs of future, as yet unfunded, retiree health benefits when they calculate their annual profits. If a consequence of the law is to suggest weaker earnings, which in turn could reduce borrowing potential, some have said companies would have reasonable cause to opt out of coverage.

The Medicare program certainly generates debate. Washington has attempted over the years to limit the cost of Part A, hospitalization, through peer review organizations and a prospective payment system that classifies each patient's admission to a hospital into one of 468 diagnostic-related groups, each of which has boundaries for reimbursements to hospitals. Moreover, despite abundant proposals announced in the past six months to contain the 17 percent annual growth rate of Medicare Part B, physician payments, no one plan has yet caught fire.

[5] John K. Iglehart, "Health Policy Report: Japan's Medical System," New England Journal of Medicine, CCCXIX, No. 12 (September 22, 1988), p. 812.

A Physician Payment Review Commission established by Congress in 1985 has suggested a national expenditure target, much like managed trade, that would limit fees and the volume of services under Part B. Other plans have promoted revising fee schedules for types of services (for example, to discourage indiscriminate operations, surgeons might get less) or basing fees on the education and the investment each doctor has made. Obviously, a solution remains out of immediate reach. Yet, many of the problems facing the United States on Medicare are the same posed in Japan, which also reimburses physicians on a fee-for-service basis. This area is one that offers perhaps the greatest leeway for adjusting future health expenditures.

Prescription for Healthy Medical System Rests with Doctors

Japan's physicians enjoy a high status in Japanese society for a variety of reasons, not the least of which is a universal tendency to appreciate, if not honor, a healer. There were 191,346 physicians in Japan in 1986, engaged primarily in private, fee-for-service practice. An estimated 82,000 were entrepreneurs who owned medical facilities. They have independent stature and lobbying clout through the powerful Japan Medical Association. The remaining doctors worked either for the privately owned facilities or in the country's roughly 7,000 state or nonprofit hospitals or clinics (see Table 3). The 1982 nationwide average of 1.4 physicians for every 1,000 people ranked lower than many industrialized countries but higher than in the United Kingdom, where -- despite a national health insurance system -- private practice still flourishes. The U.K. ratio was 1.3 doctors per 1,000 people; the U.S. ratio was 1.9 (both are 1981 figures compiled by the OECD).

Table 3: Medical Care Facilities by Type, 1985

	State-Run Facilities*	Other Nonprofit Facilities**	Private Facilities	Total
Hospitals (20 Beds or More)	411	1,509	7,688	9,608
Number of Beds	162,750	371,301	961,277	1,495,328
Clinics (Less Than 20 Beds)	572	4,480	73,875	78,927
Number of Beds	2,512	5,127	275,751	283,390

*Operated by the central government. Includes disease-specific research institutes and former army and navy hospitals.

**Operated by prefectural governments. Includes public university medical institutions.

Source: Ministry of Health and Welfare

Fees paid to doctors under Japan's insurance system are set by the Central Social Insurance Medical Council, consisting of six health care providers and three consumer representatives. Each type of service receives a specified number of points, equivalent to itemized pricing, that can be adjusted per case. (Under the Medicare program, reimbursements are fixed according to the average cost per case -- a specific amount for a cataract operation, for example -- and generally paid without regard to a particular patient's requirements for more or less service. The idea behind this system is to encourage efficiency by making all cases similar.)

As a result of Japan's fee structure, consultation, treatment, surgery and other skill-associated services generate generally lower returns than "material" points, such as diagnostic tests and drugs, which not only are prescribed by physicians but sold by them. (Skeptics contend drug prescriptions often are more financially indicated for the doctor than medically indicated for the patient, as discussed below.) The fee system itself encourages high volume since the payment for consultations is small given the amount of time expended. However, the cost of health care does not adjust according to the rules of supply and demand. Among other reasons, when a person needs care cost may become no object.

Yet competition is very much a part of Japan's medical system. In addition to the need for volume, other aspects that encourage a high degree of competitiveness, predominantly within the private sector, are: a "do-it-myself" closed system that operates without much attention to referrals; a lack of peer review; and the rising costs of medical technology. These all offer opportunities for escalating medical costs.

- Closed practices - To become a licensed physician in Japan requires six years of medical education, roughly equivalent to a doctorate, plus five years or more of working in a hospital. The result is a medical expert, not a general practitioner in the U.S. sense. During the "residency" equivalent in a hospital, the doctor may specialize under his mentor. Medical schools have the same seniority-based reverence and cohort camaraderie visible in other areas of Japan. Thus, once a physician leaves to take up private practice or enter a small clinic, any referrals will tend to go to former colleagues, regardless of their expertise in a matter.

Tokyo attempted to increase the physician/patient ratio from 1.0 per 1,000 people in 1960 to 1.5 per 1,000 people in 1985 by creating more medical schools in the 1960s and 1970s. The idea was to make physicians less of an elite group because a larger service force would mean lower income per doctor. But once again market mechanisms did not apply. Established physicians, instead, gained increased clout, according to anthropologist Susan Long, who wrote: "Large numbers of young physicians in university and public sector hospitals mean that more experienced doctors can delegate tasks to them (as apprentices). . . . Young doctors often perform work that in the United States would be assigned to nurses (for example, history-taking in outpatient clinics). . . ."[6]

Since by law all private clinics and hospitals are physician-owned, the owners have little incentive to refer a patient to competitors or grant practicing privileges to outsiders. Extension of practicing privileges is common in the United States, enabling hospitals, which usually are nonprofit, to entice more physicians to use their facilities. In effect, Japan's system is much like that of an American HMO, PPO or Independent Practice Association. Cost efficiency is enhanced by cutting the number of physicians working on a case, but a danger lies in the physician not being an expert in all areas or having access to expertise in a particular area of care. Both the U.S. and the Japanese systems rely on subjective diagnoses; the patient's only recourse is an outside second opinion.

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[6] Susan Orpett Long, "Health Care Providers: Technology, Policy, and Professional Dominance" in Health, Illness and Medical Care in Japan: Cultural and Social Dimensions, eds. Edward Norbeck and Margaret Lock (Honolulu: University of Hawaii Press, 1987), pp. 80-81.

A further problem with a limited referral system is that many clinics and hospitals would rather duplicate another facility's services than lose a patient. This becomes even more obvious in the area of medical technology (see below), but the problem also is one of competition since survival depends in part on attracting more patients. To encourage more referrals the government recently began offering fee incentives to referring physicians.

Another way of increasing volume and income is to engage in both biomedicine, which is what the majority of physicians practice in Japan, and Chinese-style medicine, kanpo, which encompasses medicinal herbs, acupuncture and similar techniques. Until recently Tokyo did not recognized any kanpo medicine for reimbursement; thus, anyone delivering that style of care received payment strictly from the patient and not the health insurance system. Lately, however, the government has included a few kanpo treatments on the fee schedule.

- Lack of peer review - Much of Japan's health care is provided by private clinics (any facility that has less than 20 inpatient beds) and private hospitals. As a result, the law requiring a physician to own and manage the facility gives him (rarely her) a dual role as both administrator and medical director. For those in this position, the term "maximizing profits" is no stranger. The link also is attributed to the vast number of doctors' children in medical school; handing down the business through the generations is one way of retaining access to profits. Inherent in this system, however, is a lack of outside objectivity for treatment and, to a degree, billing.

The government has two ways of keeping tabs on physicians' incomes: reviews of billing irregularities through the Board of Audit of the Social Insurance Medical Fee Payment Fund and income tax audits. The board's average rate of billing disallowal is 0.8 percent, according to a textbook on the National Health Administration.[7] Dr. Naoki Ikegami of Keio University's School of Medicine, however, cites a 1985 article in Japan's hospital magazine, Byoin, that stated 1.25 percent of the 1.6 billion bills submitted annually are found to be excessive and are reduced accordingly.[8]

As recognized in last year's debate on how to revise Japan's tax structure, the self-employed -- including many doctors -- have the easiest access to tax loopholes. Previously, doctors in private clinics enjoyed exemptions on 72

[7] Japan International Cooperation Agency, National Health Administration in Japan, Vol. 1: Health Administration and Organization (n.d.), p. 51.

[8] Naoki Ikegami, "Health Technology Development in Japan," International Journal of Technology Assessment in Health Care, IV (1988), p. 243.

percent of their income. With recent changes in the tax laws those exemptions drop in some cases to 52 percent.[9] An audit by the Tokyo Regional Tax Bureau conducted on 1987 income tax returns for doctors practicing in metropolitan Tokyo and the prefectures of Kanagawa, Chiba and Yamanashi found that 91.3 percent of the 1,724 returns under suspicion had underreported incomes. Penalties included fines and assessments of back taxes.

In addition to problems with administrative oversight, lack of peer review means little oversight of appropriate medical behavior. Although Japan's health statistics may reflect overall beneficient treatment, the nonlitigious system works against consumer-generated complaints, usually evidenced in the United States through malpractice suits.

Malpractice claims against all U.S. physicians averaged less than 3.2 per 100 physicians annually prior to 1981 but then jumped to an estimated 10 suits per 100 doctors in 1985. For obstetricians/gynecologists the number of complaints vaulted from 7.1 per 100 doctors in 1981 to 26.6 per 100 in 1985. Concurrently, insurance premiums for self-employed doctors increased from $5,800 on revenues of $188,000 in 1981 to $10,500 on revenues of $226,600 in 1985.[10]

Information on malpractice suits in Japan is difficult to come by. Writing in the Journal of Ambulatory Care Management, Dr. Ikegami of Keio University said, "Malpractice suits, though traditionally rare, have been increasing, which may add to the tendency of increased utilization of examinations."[11] Physicians generally obtain insurance through the Japan Medical Association. Complaints tend to accompany errors in vaccinations given children, according to one Health Ministry official.

- Rising medical technology costs - Given the competitive nature of private- versus public-sector hospitals and clinics, each tries to vie for patients by offering the latest in medical technology. For example, Japan leads the world in the number of diagnostic computer tomography scanners owned by medical facilities. In the United States certificate-of-need legislation requires a review process before hospitals or clinics invest in costly technology, such as CT scanners. Such a requirement is lacking nationally in Japan, but regional health authorities, such as Tokyo's metropolitan government, have made moves to provide similar oversight.

As Japan's standard of living and feeling of economic well-being increase, the importance of medical technology is likely to grow. The emphasis on noninvasive procedures not only matches an apparent culturally based antipathy toward surgery and other forms of invasive medical treatment but also limits the number of personnel needed to staff surgery centers and intensive

[9] John K. Iglehart, "Health Policy Report: Japan's Medical Care System -- Part Two," New England Journal of Medicine, CCCXIX, No. 17 (October 27, 1988), p. 1169.

[10] American Medical Association Center for Health Policy Research as quoted in Journal of Medical Practice Management, Winter 1987.

[11] Naoki Ikegami, "The Japanese Health Service: An Overview," The Journal of Ambulatory Care Management, V, No. 4 (November 1982), p. 84.

care units. The fee schedule, too, encourages the use of advanced, noninvasive technology. Whether the rising costs and popularity of highly technical medical hardware will further the 15 percentage point drop in the number of physicians working in clinics between 1955 and 1984 remains to be seen. But the tug-of-war for patients appears to be a continuing, costly effort that will drive doctors either to find new sources of income or out of the marketplace.

Efforts to Contain Health Costs

A concern among health policy planners is that competition will encourage medical providers to seek new sources of income in a way that takes advantage of the national health insurance system. A primary target is Japan's rapidly aging population. Tokyo has prepared a number of responses not only to the challenge posed by the increasing number of elderly but also to the threat of new diseases, such as acquired immune deficiency syndrome, the opportunities posed by advanced medical technology and the possible manipulation of the current health system by providers.

The elderly, who use more health care services on average than other people, are expected to make up at least one-fifth of Japan's population in the early 21st century. Concurrently, a lower birth rate indicates that as the number of elderly increases fewer people will fill the working ranks that support them and the health insurance system. (The 1988 birth rate of 10.8 per 1,000 people was the latest in nine consecutive drops in the annual listing.) Passage of the 1982 Health and Medical Services Act for the Aged attempted to rationalize insurance coverage for the elderly by requiring more participation by employer-based insurance programs. The act also emphasized prevention of chronic diseases and encouraged early diagnosis both for the elderly and for those aged 40 and over who became eligible to participate in a health promotion, education and examination campaign offered at the community level.

The elderly also are considered a factor in propelling Japan to one of the industrialized world's longest rates of stay in a hospital (see Table 4).

Table 4: Selected Countries' Health Care Utilization Rates, 1982

	Inpatient Care	Hospital Admission Rate*	Average Length of Stay**	Number of Persons Per Doctor
Japan	3.6%	6.4%	56.1	738
United States	1.7	17.0	9.0	498
United Kingdom	2.4	12.7	18.6	775
West Germany	3.4	18.1	18.7	422
Sweden	4.8	18.9	22.9	427
France	3.1	12.1	14.1	480
Canada	2.1	14.7	13.3	520

*Based on hospitals with 20 or more beds, which comprise only 11 percent of Japan's hospitals. Indicates persons admitted as percent of total population.
**Patient days per admission to inpatient care.

Source: Adapted from Organization for Economic Cooperation and Development, Measuring Health Care, 1960-1983 (Paris, 1985), p. 15.

Using 1985 figures for Japan Mr. Iglehart recalculated the length of hospital stay for the total population and refined the overall average of 54.2 days to 39.4 days by excluding stays by patients with tuberculosis (207.2 days) and psychiatric care (536.3 days).[12] Not just some of the bedridden elderly but all those who are unable to be cared for at home generally end up in a hospital since waiting lists can be long at the few available long-term care facilities.

The government has attempted to cut these rates of stay by decreasing the reimbursements once a patient has been hospitalized for about two months. Many Japanese prefer a hospital to long-term care facilities, however, because the latter carry a stigma of abandonment. In the case of the elderly this stigma is reinforced by a tale of frail grandmothers abandoned on the mountain (obasuteyama). But the need for another option of providing care has become more obvious as more 35- to 50-year-old women return to part-time or full-time work and leave the ranks of caregivers. Those unable to fully manage for themselves might be able to receive daycare at community-based senior citizen centers, if these are available. The Health and Welfare Ministry also has proposed an intermediate care home, much like a nursing home, where the emphasis would be to restore health and not just "warehouse" an individual.

A cheerleader approach to keeping the elderly healthy is part of the 1988 white paper on health and welfare submitted to the cabinet in March this year. In addition to suggesting that the elderly be provided opportunities in a community to keep busy, the white paper recommended increasing the number of volunteers and community centers that could serve those confined at home.

Challenges posed by as-yet-uncurable diseases, such as AIDS as well as Alzheimer's and associated senility diseases, are prompting government-funded and private-based research into a plethora of new drugs. An estimated 0.6 percent of the population has some type of senility. Although Japan has had few cases of AIDS, Tokyo has taken action to address the possible spread of the disease.

As of January 6, 1989 Japan had recorded 97 AIDS cases and identified 1,605 people as having the AIDS-related precursor human immunodeficiency virus. This compares with a total of 90,990 AIDS cases and an estimated 945,000 to 1.4 million HIV cases reported in the United States through March 31, 1989. The predominant carriers of AIDS in Japan are hemophiliacs (see Table 5) who, to some extent, blame foreigners for shipping AIDS-tainted blood to Japan. Failure to heat-treat imported clotting agents even after they arrived in Japan also may have added to the pre-1985 numbers of those contracting AIDS. Heat treatments began in mid-1985. Luckily for Japan, where the use of blood products is more common than in many countries, the form of plasma commonly used, albumin, already had been treated and did not carry the AIDS virus.

Japan's counterattack against AIDS involves education, a mandatory reporting system that does not require naming a carrier unless the person refuses to refrain from behavior that may promote infection for others, and provisions for refusing entry to suspect foreigners if a blood test shows they have AIDS and if they are considered a threat for spreading the disease (as in the case of prostitutes). To limit reporting abuses by doctors, the newly enforced law provides for fines and jail terms for inaccurate accusations. Tokyo also created a research team in the Education Ministry and funded 30 researchers from 20 institutes around the country to study the disease and vaccinations against it.

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[12] Iglehart, op. cit., pp. 1170~~-1171~~.

Table 5: Pattern of AIDS Virus in Japan and Mortality as of February 1988

Method of Infection	Men	Women	Total	Deaths
Homosexual Contact	19	--	19	8
Heterosexual Contact with AIDS Carrier	4	4	8	4
Tainted Blood Infusions (Hemophiliacs)	37	--	37	24
Unknown Contact	1	1	2	2
Total	61	5	66	38

Note: Those who had tested positive for the HIV virus associated with AIDS numbered 1,016 in January 1988.

Source: Committee of Ministers on AIDS Problems

In recognition of the medical costs associated with AIDS, the Health and Welfare Ministry set stipends ranging from Y85,600 ($685) a month for those younger than 18 to Y208,900 ($1,671) a month for adults with AIDS. The program applies only to hemophiliacs. Their families also would receive stipends. The overall program cost is estimated at Y300 million to Y400 million ($2.4 million to $3.2 million). Obviously, if AIDS or any similar debilitating disease spreads across Japan, the cost to the insurance system would be great. Given the low number of cases, the prognosis for controlling costs for such diseases appears good.

More difficult to assess is the impact that organ transplant operations might have once the system accepts an advisory panel's recommendations to recognize cessation of brain waves as the legitimate definition of death in Japan. One writer on the subject, a lawyer, suggested that since Japan has no legal definition of death, all that is holding up transplant operations is a consensus by the parties involved that brain death should be the criteria for removing an essential organ from a no-longer functioning individual and transplanting it in another patient.[13]

However, ever since the first heart transplant operation resulted in the physician in charge being tried, but not convicted, of murdering the drowned youth who had been declared brain dead, Japanese physicians have been reluctant to test the system. As a result, those seeking transplants step outside Japan's health insurance system and seek organs overseas. The minor increase in traffic to the Philippines, Australia or elsewhere has raised fears that citizens of these countries might object to Japanese "buying" operations involving organs that already are in short supply. If Japan decided, however, to formally allow transplants, the health system would have to come to grips not only with

[13] Ichiro Kato, "Brain Death and the Myth of Social Consensus," Japan Echo, XV, No. 2 (1988), p. 55.

procuring organs but also paying for the expensive operations. Fortunately for Japan's insurance system, physicians tend to shy away from operations of all types, thus decreasing the potential impact of organ transplants.

Less hesitant are doctors about prescribing medication. The high rate of drug prescription is considered a flaw in Japan's medical system and one of the ways in which health care providers manipulate the system. Quoting an OECD report, Dr. Ikegami notes that in 1980 Japan's per capita consumption of prescribed drugs was the highest in the world and twice the U.S. rate. Although the fee schedule has encouraged prescription of drugs in the past, the Health and Welfare Ministry has tried in recent years to squeeze the profit margins that enable drug companies to discount pharmaceuticals to gain physicians' business. When the ministry sets the payment schedule for drugs, it determines the price percentile that it will cover. In the past, for example, a drug might have cost a physician Y70 ($0.56), but the government was willing to reimburse him Y90 ($0.72) since that was the price percentile chosen for the fee schedule. By not asking the doctor for the full Y90 the drug company hopes to receive more of his business. Now, however, the government is trying to achieve efficiency, decrease hidden income and inhibit any indiscriminate prescription of medications by slowly shrinking the fee schedule to a price closer to the cost of production.

Conclusion

Japan's competitive health system operates within an insurance framework that offers essentially universal coverage to all its citizens. While the government appears to be regulating costs well within the insurance structure, the potential for increasing costs lies within the fee-for-service practices of both public and private health care providers. Among the tools available for containing rising medical costs is a government-dictated fee schedule, which has been used in the past to encourage technologies, such as renal dialysis, and which is being reviewed for adjustment in light of the heavy rate of prescription drug usage. However, growing technological, demographic and pathogenic changes are putting the competitiveness of Japan's medical system to new tests with abundant reasons for increasing health costs. The government has tried through revisions in the insurance system and a variety of research and health promotions to increase the public's health I.Q. and keep chronic illnesses, and costs, at bay. Success may be incremental.

For further information, contact Pat Murdo.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI

REPORT

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GATT Negotiators Reach Framework Agreements

The operation to revive the Uruguay Round of the General Agreement on Tariffs and Trade would not be easy, the conventional wisdom said. In fact, one independent observer already had pronounced the patient dead. As trade negotiators from about 100 countries gathered in Geneva in early April to try to advance the GATT process, they could have been forgiven a little pessimism concerning the marathon effort that began in 1986 and will last until at least 1990. Barely past the midway point, the negotiators had met in Montreal last December. While acrimonious, that session nevertheless produced a series of tentative "framework" agreements on a variety of subjects. But it also highlighted the bitter disagreement between the United States and the European Community on what to do about agriculture (see JEI Report No. 47B, December 16, 1988).

- To negotiate rules on intellectual property rights.

The framework agreements vary tremendously in their specifics for future negotiations. Some observers worry that an inordinate amount of time has been spent laying out the course and reviving the patient. The next year and a half is more likely to resemble a sprint than a marathon. Observers hope the patient, somewhat recovered but not yet fully healthy, is up to the task.

Douglas Ostrom

Manufactured Imports Continue Surging

In a current magazine advertisement, a Japanese consumer electronics company shows a picture of a large, U.S.-style television set in a Japanese-style room. The TV set is the product of the firm's U.S. factory. The company obviously takes great pride in the message of the advertisement -- that it is selling American-made products in Japan. An American critic might respond with a better-late-than-never air, even if the manufacturer is not U.S.-owned. For years, American firms and others have argued that since Japan sells large amounts of manufactured goods in overseas markets, the same result should be expected at home. To date, these critics have added, that has not been the case.

Few would argue the facts in that accusation. Japan has been, and continues to be, unusual among industrial nations in buying relatively few manufactured products from overseas. Many countries, for example, are both large importers and exporters of cars, reflecting the desire of car buyers to have a variety of models available. Japan's automotive imports, while up sharply in recent years, are a mere trickle compared to exports.

Japan's imports traditionally have been concentrated on industrial and agricultural inputs. As Japan's trade surplus has grown, the limited volume of manufactured imports has become more conspicuous (see JEI Report No. 14A, April 8, 1988). Some American experts have argued that Japan's trade structure is not skewed given its size and resource endowments, but they have been outnumbered if not out-argued. Pressure to do something about the low level of manufactured goods has intensified in recent years.

However, even as Japan's critics spoke, the situation was changing, as the table shows. Japan's imports of manufactured goods have been rising as a percentage of total imports for years, a surge that continued in 1988. In both volume and dollar terms the increase in manufactured goods imports has accelerated along with the depreciation of the American currency. While dollar-denominated manufactured imports were up a modest 22.3 percent between 1982 and 1985, in the three years between 1985 and 1988 they more than doubled.

Will this rise continue? Yes, for at least two reasons.

- In Japan -- as elsewhere -- imports of manufactured goods tend to rise rapidly, both absolutely and in comparison to other imports, when the economy grows rapidly. That accounts for much of the long-term expansion trend seen in the table for imports of manufactured goods. Almost all experts expect Japanese economic growth to continue at a healthy pace, pulling more manufactured products into the country as a percentage of all imports.

- In addition, shipments of manufactured goods respond more significantly than industrial and agricultural raw materials to exchange rate changes. This second factor undoubtedly accounted for the spurt in manufactured imports in 1986, a year of sluggish economic growth in Japan but one where the dramatic appreciation of the yen that started in 1985 began to take hold.

Some of the changes in the structure of relative costs that have followed in the wake of the high yen still are being digested, suggesting that further increases in manufactured imports can be expected. For example, many Japanese manufacturing firms just now are in the process of building or starting up overseas production facilities. While these transplants so far export relatively little to Japan, the percentages are likely to increase. Japanese retailers still are discovering the virtues of supporting the development of low-cost foreign sources of supply, something American chains such as Sears, Roebuck & Co. learned years ago. As department stores and other big retail operations get the knack of this practice, imports of manufactured goods, especially from low-cost Asian countries, will rise. Manufactured imports could get a further boost from the widely expected additional appreciation of the yen.

Japan's Imports of Manufactured Goods, 1982-88

	Value (millions of dollars)	Percent of All Imports	Growth of Volume	
			All Imports	Manufactures
1982	$32,827	24.9%	-0.6%	0.6%
1983	34,361	27.2	0.8	2.5
1984	40,614	29.8	10.5	20.2
1985	40,157	31.0	0.4	1.8
1986	52,781	41.8	9.5	22.6
1987	65,961	44.1	9.3	12.5
1988	91,838	49.0	16.7	30.5

Source: Ministry of Finance

Few expect that an increase in manufactured products alone could shrink Japan's trade surplus appreciably. In the face of an unprecedented increase in manufactured imports in 1988, the gap narrowed only slightly. But without such a flow, the surplus would be much harder to reduce, depending primarily on an unlikely reduction in the value of Japanese exports abroad.

Some viewers of the advertisement mentioned at the start might get a message different from the intended one: the scene is incongruous and obviously symbolic. In fact, the maker sells a limited number of U.S.-made TV sets in Japan. More generally, imported consumer products still are the definite exception. Real change will have arrived when magazine readers flip past the picture of a U.S.-manufactured product in a Japanese home.

Douglas Ostrom

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REPORT

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THE U.S. TRADE DEFICIT WITH JAPAN: "SOMETHING MUST BE DONE"

Summary

On April 30 the Office of the U.S. Trade Representative will release a new inventory of foreign trade barriers that hamstring exports of competitive American products and services. A month later USTR Carla Hills must identify priority countries for market access negotiations based on the number and the pervasiveness of their unfair import practices and the potential for expanded U.S. sales. White House watchers assume Japan will be on this Super 301 hit list, even though it is readily acknowledged that barriers explain only a small part of the yawning U.S. trade deficit with Japan. Their reasoning is simple: skipping over Japan, which accounted for 40 percent of this country's overall trade imbalance in 1988, almost certainly would trigger a backlash on Capitol Hill and in many corporate boardrooms.

While most of the Washington trade community now is preoccupied with guessing what products and practices will be targeted for market access negotiations with Tokyo, a small but influential group of businessmen, former government officials and legislators already has written off the success of the Super 301 process. This strategy, although effective in dismantling formal barriers to U.S. exports, will not eliminate the informal barriers that now are the major cause of restricted market opportunities in Japan for American suppliers, it is argued. In this view the only way to overcome such trade-distorting practices as the country's buy-national psychology and distribution system is to set import goals for Japan. This market-opening approach is anathema to the Bush administration, but it could gain support if the recent rapid expansion of U.S. exports stalls.

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Tackling Market Access Problems

The U.S. trade deficit with Japan is stuck at a politically unsustainable $50 billion-plus. The gap between exports and imports did narrow from $59.8 billion (imports c.i.f.) in 1987 to $55.4 billion last year after eight years of nonstop growth (see Table 1), but the improvement was disappointingly modest given all the factors working in favor of a smaller shortfall. By itself the roughly 50 percent drop in the value of the dollar against the yen since September 1985 should have shrunk the deficit by more than $4.4 billion, many analysts argued. Add in robust domestic demand in Japan coupled with moderate economic expansion in the United States, the cumulative effects of seven Japanese market access packages dating back to December 1981 and the enhanced competitiveness of American manufacturers and the stage seemingly was set for a major correction in the bilateral trade account.

Table 1: U.S. Trade with Japan, 1979-88

(in millions of dollars; exports f.a.s., imports c.i.f.)

	Exports	Change Over Year-Earlier Period	Imports	Change Over Year-Earlier Period	Trade Balance
1979	$17,581	36.4%	$28,169	6.5%	$-10,588
1980	20,790	18.3	32,973	17.1	-12,183
1981	21,823	5.0	39,904	21.0	-18,081
1982	20,966	-3.9	39,932	0.1	-18,966
1983	21,894	4.4	43,559	9.1	-21,665
1984	23,575	7.7	60,371	38.6	-36,796
1985	22,631	-4.0	72,380	19.9	-49,749
1986	26,882	18.8	85,457	18.1	-58,575
1987	28,249	5.1	88,074	3.1	-59,825
1988	37,732	33.6	93,168	5.8	-55,436

Source: Department of Commerce

To make matters worse, the drop in the deficit increasingly looks like a one-shot improvement. U.S. sales to Japan are expected to turn in another strong performance this year, with trade policymakers both here and in Tokyo counting on continued buoyant Japanese domestic demand to spur a repeat of the big gain posted in 1988 by U.S. manufactured products (up 35.3 percent to $19.8 billion) and to keep exports of industrial and agricultural inputs on the upswing (see Table 2). At the same time, however, analysts are predicting another uptick in the growth rate of made-in-Japan products (see Table 3) despite a projected slowdown in the American economy. With purchases already so huge, simple arithmetic indicates that anything more than last year's import increase will cancel out the deficit-reducing effects of higher exports.

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Table 2: U.S. Exports to Japan, 1987-88

(in millions of dollars, f.a.s. value)

	1987	1988	Percent Change
Total Exports	$28,248.6	$37,732.1	33.6%
Industrial Supplies	10,247.0	12,951.4	26.4
Bituminous Coal	484.5	597.5	23.3
Petroleum Products	661.3	657.9	-0.5
Logs and Lumber	1,573.4	1,906.2	21.2
Paper Base Stocks	756.7	1,051.5	39.0
Paper and Paper Products	404.1	476.6	17.9
Organic Chemicals	870.4	1,105.6	27.0
Inorganic Chemicals	831.5	887.7	6.8
Plastics and Synthetic Resin Compounds	422.8	544.4	28.8
Nonferrous Ores and Scrap	553.9	892.7	61.2
Nonferrous Metals	394.3	826.3	109.6
Raw Cotton	413.7	484.0	17.0
Hides and Skins	369.6	465.0	25.8
Capital Goods	7,290.4	10,059.9	38.0
Electric Machinery	471.2	629.3	33.5
Nonelectric Machinery	4,873.2	7,103.0	45.8
Industrial and Service Machinery	1,602.4	2,453.1	53.1
Computers, Peripherals and Semiconductors	2,038.8	2,976.9	46.0
Telecommunications Equipment	418.9	585.8	39.8
Scientific and Medical Equipment	557.2	747.6	34.2
Transportation Equipment	1,945.9	2,327.7	19.6
Civilian Aircraft	1,094.9	1,288.8	17.7
Civilian Aircraft Parts	796.0	854.6	7.4
Food, Feed and Beverages	5,578.9	7,964.2	42.8
Corn	1,036.0	1,616.2	56.0
Soybeans	785.7	1,030.1	31.1
Wheat	352.3	425.5	20.8
Fruits and Vegetables	664.5	822.1	-23.7
Meat and Meat Products	898.3	1,375.4	53.1
Fish and Fish Products	1,058.8	1,576.4	48.9
Consumer Goods	2,548.0	3,273.0	28.5
Nondurables	1,612.5	1,944.4	20.6
Pharmaceuticals	679.7	784.8	15.5
Cigarettes	491.9	606.3	23.3
Durables	783.1	1,112.5	42.1
Recreational Equipment	256.7	390.5	52.1
Gems, Jewelry and Collectibles	244.0	326.6	33.8
Automotive Products	361.8	776.7	114.7
Automotive Parts, Engines, Bodies and Chassis	253.4	417.4	64.7
Other Exports	1,345.0	1,690.5	25.7

Source: Department of Commerce

Table 3: U.S. Imports from Japan, 1987-88

(in millions of dollars, Customs value)

	1987	1988	Percent Change
Total Imports	$84,575.0	$89,802.1	6.2%
Capital Goods	27,576.6	32,823.8	19.0
Electric Machinery	2,937.4	3,566.0	21.4
Nonelectric Machinery	24,120.7	28,701.9	19.0
Construction, Mining and Drilling Equipment	1,079.2	1,376.1	27.5
Industrial and Service Machinery	7,230.3	8,465.3	17.1
Agricultural Machinery	550.4	494.0	-10.2
Computers, Peripherals and Semiconductors	8,341.6	11,058.0	32.6
Other Business Machines	2,414.0	2,458.4	1.8
Telecommunications Equipment	3,640.5	3,867.7	6.2
Scientific and Medical Equipment	864.8	982.3	13.6
Transportation Equipment	518.5	555.9	7.2
Civilian Aircraft, Engines and Parts	303.6	405.4	33.5
Automotive Products	33,733.5	32,765.1	-2.9
Cars	21,306.6	19,879.9	-6.7
Trucks and Special-Purpose Vehicles	4,961.2	3,733.7	-24.7
Automotive Parts, Engines, Bodies and Chassis	7,465.8	9,151.6	22.6
Consumer Goods	13,946.7	14,252.2	2.2
Nondurables	1,396.6	1,452.7	4.0
Apparel, Footwear and Household Goods	455.8	364.9	-19.9
Durables	12,410.7	12,638.7	1.8
Household Goods	1,938.8	1,788.7	-7.7
Recreational Equipment	3,434.6	4,201.3	22.3
Home Entertainment Equipment	6,448.5	6,046.2	-6.2
Gems, Jewelry and Collectibles	588.8	602.6	2.3
Intermediate Goods	8,046.4	8,585.0	6.7
Steel Mill Products	2,214.7	2,666.1	20.4
Organic Chemicals	846.9	887.2	4.8
Textiles	755.5	675.0	-10.7
Food, Feed and Beverages	458.8	396.0	-13.7
Other Imports	813.0	980.0	20.5

Source: Department of Commerce

Current strategies for rectifying the U.S.-Japan trade imbalance clearly are not working. That does not surprise economists who have been arguing for years that realignment of the dollar-yen exchange rate and faster, domestic-led growth in Japan are necessary but not sufficient conditions for progress on the bilateral trade front. Their standard prescription at the macroeconomic level includes slashing the federal budget deficit and boosting this country's personal savings rate as well as some supplemental decline in the dollar's value and continued strong economic expansion in Japan through further restructuring. Additional advances in U.S. industrial productivity, product quality and cost control and a more open Japanese market are key elements of the microeconomic counterpart.

While paying lip service to the need for macroeconomic changes in the United States, many American legislators and business executives are looking for a faster, less painful solution to the huge U.S. trade gap with Japan. The broad support for limits on sales here of Japanese-made cars, machine tools, steel and textiles comes under this heading, but adding products to the list is a nonstarter, at least for now, since the Bush White House is on record as opposing protectionism. That leaves opening Japanese markets -- the stated trade policy of the current administration -- as the only quick-fix candidate. Capitol Hill and the business community long have endorsed this strategy for dealing with the bilateral trade deficit, but recent support has been lukewarm at best because of the checkered results from Reagan administration efforts to negotiate expanded market opportunities in Japan for American suppliers.

Washington has tried a variety of market access negotiating tactics over the years: tackling specific product problems on a case-by-case basis, going after the full range of import barriers in certain industries (the MOSS or market-oriented, sector-selective talks), and self-initiating formal investigations under Section 301 of the 1974 Trade Act of unfair Japanese trade policies and practices at home. Whatever the tactics, many lawmakers and businessmen have come to the conclusion that negotiating the elimination of import barriers in Japan is a never-ending process; the removal of one obstacle to U.S. sales just reveals another. Critics also charge that the White House allows market access negotiations with Tokyo to drag on and then often settles for a Japanese response short of the administration's initial goals. An extension of this complaint is that U.S. trade policymakers are reluctant to retaliate against Japan for inadequate compliance with a market-opening agreement. Capitol Hill and corporate proponents of a more aggressive policy toward Japan fault the executive branch as well for its failure to target some clear-cut barriers to U.S. exports.

Congressional and business-sector frustration with the administration's handling of trade relations with Japan found a partial outlet in the sections of the 1988 Omnibus Trade and Competitiveness Act on foreign unfair trade policies and practices. The legislation amended Section 301 in several places. In broadbrush terms it mandated action by the White House if a trade agreement is violated or if a foreign practice is "unjustified" -- inconsistent with other international legal rights of the United States. It also spelled out specific "unreasonable" practices that are actionable, including inadequate or ineffective protection of intellectual property rights, foreign government toleration of "systematic anticompetitive activities" by local companies, and export targeting. Other changes included transferring from the president to the U.S. Trade Representative the authority to take steps to win the elimination of unfair foreign trade practices, revising the timetable for Section 301 investigations and setting a deadline for retaliatory action.

The main legislative release valve for critics of recent administration efforts to open markets in Japan was the part of the new trade law universally dubbed Super 301. On paper the Super 301 process is relatively straightforward. On April 30 the Office of the U.S. Trade Representative will send to Congress its fourth annual inventory of significant foreign barriers to U.S. exports of goods and services as well as to direct investment by American companies and to intellectual property rights. This time the survey also will include estimates of the value of U.S. trade or foreign investment affected in 1988. Using this report as a starting point, USTR Carla Hills must come up with a set of U.S. trade liberalization priorities by May 30.

The trade act lists three guidelines for selecting priority foreign barriers and trade-distorting practices, starting with the international competitive position and the export potential of American suppliers. It also provides general criteria for targeting priority countries -- namely, the number and the pervasiveness of a trading partner's barriers and the projected value of U.S. exports if that country were fully implementing existing trade agreements. Also factoring indirectly into this part of the selection process is the estimated value of sales lost last year because of trade policies or practices identified as priority barriers.

By June 20 the Bush administration must launch investigations of each of the trade barriers tagged priority. The primary goal of these proceedings, conducted under the same rules as regular 301 inquiries, is to negotiate an agreement to eliminate the priority practice within three years, with the expectation that U.S. exports will expand incrementally each year during this period. The fallback objective is to win compensation if a foreign government decides to keep a priority barrier in place. If the negotiations fail altogether, the White House has the option within certain limits to take retaliatory action for four years.

Although a watered-down version of the original proposal for reducing the U.S. trade deficit with countries like Japan, the Super 301 provision has become a source of controversy in Washington and worry in Tokyo and other foreign capitals as the implementation date nears. Part of the debate comes from second-guessing exactly what type of foreign trade practices lawmakers intended for Super 301 coverage. A number of trade lawyers maintain that the legislative history of Super 301 clearly indicates that this provision was designed to combat generic or systemic foreign trade practices, not run-of-the-mill barriers to U.S. exports such as high tariffs and quotas. Legislators involved in drafting Super 301 have backed this interpretation in recent weeks, noting that they were particularly concerned about informal unfair trade practices like the buy-national attitude prevalent in Japan and its distribution system.

The Japan example highlights a second source of controversy: which countries did Congress think were prime candidates for priority status? Sen. John Danforth (R, Mo.), ranking minority member of the Finance Committee's international trade subcommittee, told USTR Hills earlier this year that legislators clearly had Japan in mind when they wrote the Super 301 section. Other lawmakers subsequently have voiced this opinion. There also is another indication of congressional intent. U.S. trade problems with Japan rated a "sense of the Congress" section in the 1988 trade bill, which focused on the need for high-level negotiations to improve market opportunities for American goods, particularly manufactured products.

The Bush White House is in a bind. If it does not name Japan a Super 301 priority country, it risks a backlash on Capitol Hill, but if this country's number-two export customer is branded a pervasive unfair trader, the outcome could be the same in Tokyo. Even administration proponents of designating Japan a priority country recognize that this tag could sour the negotiating environment. They also are aware of the problems of reaching government-to-government agreements on an end to the private-sector institutional or structural factors that analysts and exporters alike consider to be the main obstacles to expanded U.S. sales of manufactured products. These reservations notwithstanding, the current betting in Washington is that Japan will get caught in the Super 301 net. The only question is which products or practices will be targeted.

First Elimination Round

The inventory of significant foreign barriers to U.S. exports, which is scheduled for release April 30, no doubt will be based primarily on USTR's 1987 National Trade Estimate Report. That document listed Japanese barriers to 18 specific products or product groups spanning high tariffs, quotas, standards, government procurement and private-sector actions, as well as six generic problems, including the distribution system. Impediments to the provision of five types of services also were identified, plus export credits and inadequate protection of intellectual property.

This catalog of 31 barriers is a somewhat misleading indicator of market accessibility in Japan for foreign, especially American, competitors. The discussion accompanying the listing indicates that as of late 1987 Washington was satisfied with Tokyo's efforts to remove roughly one-third of the cited obstacles to U.S. exports and about half of the product-specific barriers. This assessment is unlikely to have changed in the intervening months. Moreover, the trade figures for 1988, including Japanese import statistics as well as U.S. export numbers, and market share data support the view that Japan has made or is making more than sufficient progress in dismantling the barriers that have impeded exports of a substantial group of American-supplied products. While room undoubtedly exists for additional sales in some areas, these products presumably are not candidates for Super 301 priority designation.

Cigarettes - Opening the world's second-largest cigarette market to unrestricted U.S. competition was one of the Reagan administration's market access success stories, although this outcome took years of pressure and finally a threat of retaliation to achieve. On April 1, 1987 Japan suspended its tariff on cigarettes, which had been cut in two stages earlier in the decade from 90 percent to 20 percent. This move actually had double benefits for the three big American cigarette manufacturers since it also eliminated the "tax on a tax" problem (the fact that Japan's tobacco excise tax was calculated on the after-tariff price of imported cigarettes) that U.S. companies considered their major marketing handicap. Previously Tokyo had removed all restrictions on access to retail outlets, allowed foreign suppliers to set up their own distribution networks, eased advertising regulations and modified the price-approval system.

The impact of these changes on U.S. cigarette exports to Japan has been dramatic. From $95 million in 1985, sales skyrocketed to $606 million last year. At the same time Philip Morris Inc., R.J. Reynolds Tobacco Co. and Brown and Williamson Tobacco Corp., which together control well over 90 percent of Japan's imported cigarette sales, made significant market inroads. The foreign share of the market, limited to a mere 2.4 percent in FY 1985, jumped to 8.8 percent in the April 1987-March 1988 period and on to 12.1 percent in FY 1988.

These gains were all the more impressive because the American trio was fighting for share in a shrinking market.

Leather and Leather Footwear - Improving access to Japan's leather and leather footwear markets also was a protracted process, one that finally ended in a standoff. In April 1986 Tokyo replaced the straight quotas on leather and leather footwear with tariff quotas. Imports above the TQ volumes are subject to a 60 percent tariff; within the limits foreign leather is dutiable at 15 or 20 percent and leather footwear at 27 or 30 percent. At the time this issue was settled American trade officials said the new system was no less restrictive than the old one. This assessment has been proved off-base. U.S. exports of all types of leather expanded from $21 million in 1985 to $50 million in 1988. Part of this gain reflected higher prices, but volume was up. For example, shipments of upholstery leather, the main export product, doubled between 1987 and last year. Similarly, exports of leather footwear totaled $20 million in 1988 compared with $3 million-plus three years earlier, which made Japan the number-two U.S. export market. In fact, though, European suppliers have been the main beneficiaries of the changes in the Japanese leather and leather footwear import system. That really is no surprise since the United States buys more leather from abroad than it sells and is a big net importer of leather footwear, mainly from Europe.

Aluminum - As part of the complex 1985 settlement of the leather/leather footwear case, Tokyo agreed to cut its tariffs on primary aluminum (9 percent) and semifabricated aluminum products (various rates) to the U.S. levels of 1 percent and 3 percent, respectively, by January 1988. This move, partly implemented ahead of schedule, addressed one of the American aluminum industry's complaints about limited sales in the world's second-largest aluminum market, but the trade effects of the tariff reductions are hard to isolate.

Japanese aluminum fabricators, which now are supplied by just one small domestic smelter, are the top international buyers of primary aluminum, importing 2.5 million tons in 1988 -- 46 percent more than in 1985. Most ingot is bought under long-term contract or from joint ventures abroad. Ingot purchased from the United States, however, generally is acquired on the spot market. This puts U.S. suppliers at a disadvantage in periods of tight supply like 1988. Nevertheless, American companies shipped $673 million worth of primary aluminum to Japan last year, equal to about 14 percent of total Japanese imports on a volume basis, plus another $442 million in scrap.

U.S. aluminum manufacturers also exported $46 million in plate, sheet and strip to Japan in 1988 -- four-and-a-half times 1985's total. That increase was an encouraging development for an industry that long has complained that it was dogged at home by stiff Japanese competition in the important canstock market but had trouble selling similar products in Japan. The tables are turning quickly, however, in part due to the dollar-yen realignment but also because of improved U.S. product quality. Instead of U.S. imports of Japanese flat-rolled aluminum products outweighing exports by a 91-to-1 margin as in 1985, the gap has shrunk to 3 to 1.

Grapefruit and Other Foods - While bulk agricultural commodities generally enter Japan duty-free, tariffs on other farm products and processed foods of interest to U.S. suppliers can be high. Washington's long-running call for reductions in these levies finally was answered last summer. As compensation for the delay in freeing imports of beef, oranges and orange juice (see below), Tokyo agreed to lower or eliminate the tariffs on 12 food products effective April 1 of this year. On the same date the duties on 13 other foods were cut in exchange for the continuation of import restrictions on certain dairy products and starches that the General Agreement on Tariffs and Trade said violated international trade rules (see below).

Winning Japanese agreement to trim the tariff on grapefruit from 25 percent during the in-season for Japanese oranges and 12 percent in the off-season to 10 percent year-round was a major trade-off. While helpful, this change, which will be implemented next April following an intermediate cut this month, is unlikely to lift U.S. grapefruit exports much above 1988's level of $122 million. Japanese consumption of citrus fruit, especially fresh citrus, already is relatively high; moreover, the increasing availability of a wide range of comparably priced fruits will limit future grapefruit demand. Similarly, the reduction in the duty on walnuts, another U.S. tariff priority, probably will not generate much additional trade since the duties on competing nuts are all below the 10 percent rate now charged on walnuts.

Beef and Oranges - Perseverance usually pays off in negotiating more open markets in Japan. That is the moral of the prolonged U.S. attempt to win the elimination of Japan's import quotas on beef, oranges and orange juice. Last June Tokyo finally consented to liberalize imports of beef and oranges in April 1991 and orange juice a year later. In the interim quota quantities will be boosted annually (see JEI Report No. 42A, November 4, 1988). The first hike in the beef quota (for FY 1988) already has had a major impact on U.S. beef shipments to Japan, long the dominant foreign customer for this product. Exports of fresh, chilled and frozen beef jumped from 91,000 tons valued at $351 million in 1985 to nearly 178,000 tons worth $829 million last year; sales of beef offals, some of which comes under the quota, added another $177 million to the total. In the process the United States upped its share of both Japanese imports (41.7 percent in 1988 versus 30.8 percent three years before) and apparent Japanese supply (13.2 percent compared with 1985's 6.6 percent figure). These gains are certain to continue as Japan moves closer to unrestricted trade in beef.

The benefits to U.S. producers of the move toward free trade in oranges have been slower to materialize, but that was expected. Japan's imports of oranges from the United States, virtually the exclusive supplier, were barely higher in 1988 than in 1985. There also are reports that the FY 1988 quota could not be filled because of sluggish Japanese demand, held down by the same factors that limit grapefruit consumption.

"GATT 11" Products - U.S. persistence also was rewarded last summer when the Japanese government agreed to phase out by April 1990 the GATT-inconsistent quotas on seven categories of processed foods -- processed cheese, fruit purees and pastes, canned pineapple and fruit pulp, tomato juice and noncitrus fruit juices, ketchup and tomato sauces, sugars and sugar syrups, and a miscellaneous group of sugar-based food products. The agreement also covered partial liberalization by the same date of two other GATT-incompatible quota categories -- various milk and cream products and starches (see JEI Report No. 29B, July 29, 1988). Simultaneously, Tokyo promised to raise the import ceiling over three years for peanuts and dried peas and beans, the two quota groups GATT said Japan could maintain if import volumes were expanded. Overall, these changes are expected to double U.S. exports, which totaled about $80 million in 1987, by the start of the 1990s.

Fish - With the pending elimination of most of Japan's quotas on foreign agricultural commodities, the six quotas on fish imports will be among the nation's few remaining quantitative restraints. As it is, the trade-distorting effects of these limits are hard to discern, either overall or on market opportunities for American fishermen. U.S. fish sales to Japan, which takes roughly two-thirds of total exports, more than doubled between 1985 and 1988 to nearly $1.6 billion. Most of this growth represented higher prices across-the-board, but volume did expand, both in the aggregate and in the quota categories of particular interest to the United States -- herring, pollack and cod. Concurrently, Japan's fish imports from all suppliers increased by well over 100 percent in dollar terms during the 1985-88 period, supported by a 50 percent jump in quantity to 2.3 million tons. Fish caught by American vessels, primarily salmon, made up about one-fifth of this total. With both the United States and the Soviet Union tightening restrictions on Japanese fishing operations in their coastal waters, Japan's fish imports will continue to expand at a fast pace, providing a growth market for U.S. competitors.

Second Elimination Round

A second group of products listed in USTR's 1987 National Trade Estimate Report also can be scratched with some confidence as candidates for Super 301 priority designation. Like the products expected to be eliminated in the first round, these exports have some common characteristics. U.S. sales of each have increased over the last four years, but they have not reached their potential. The reason, American suppliers say, is that while major barriers to their products have been dismantled or reduced, the Japanese government has not addressed all their marketing concerns. U.S. trade officials generally agree with this assessment but seem inclined at this point to work on these problems through established bilateral channels rather than in the Super 301 context.

Alcoholic Beverages and Wine - Virtually unnoticed Japan has become the best foreign customer for American wine, beer and distilled alcoholic beverages. Part of this change reflects normal market growth and the weaker dollar, but tariff cuts have been the major factor. The duties on wine and distilled spirits have been lowered twice since 1985, beer tariffs once. The reductions were fairly significant. On table wine, for example, the import charge dropped from 38 percent or Y280 ($2.24 at Y125=$1.00) per liter, whichever was lower given a minimum duty of Y166 ($1.33), in April 1985 to 21.3 percent or Y156.8 ($1.25) per liter in April 1987 when the minimum levy went to Y93 ($0.74).

These reductions partially addressed one major U.S. concern. The recently introduced changes in Japan's excise taxes on alcoholic beverages (see JEI Report No. 45B, December 2, 1988) went a long way toward resolving the other big American complaint. As part of this overhaul, the grading system for table wine -- which penalized higher-value products, such as most imports -- was scrapped, and the excise tax was slashed from Y159.8 ($1.28) a liter in most cases to a uniform Y46.3 ($0.37). The grading system for whiskey was retained, but the tax rates generally applicable to imports were decreased. The excise tax on beer regardless of type also was cut modestly.

The tax revisions will keep U.S. exports on the upswing, although Japanese distribution licenses for alcoholic beverages reportedly are hard to obtain and the government has been slow to grant liquor licenses to big supermarkets, which typically stock a greater volume and a larger variety of imported products. Even without the tax changes, American wine sales had jumped to nearly $21 million in 1988 from $3 million in 1985, beer exports went from about $3 million to $17 million and deliveries of distilled alcoholic beverages, primarily bourbon, had climbed from $8 million to $47 million. Exports to Japan from European companies, the main foreign competitors, underwent the same dramatic growth. That combination boosted the import share on a volume basis of Japan's wine market to more than 40 percent last year and raised the foreign slice of whiskey sales to nearly 15 percent.

Candy and Chocolate Confectionery - Japan also has developed into the top export market for American chocolate manufacturers. The drop in the dollar's value has been a boon to sales since it widened the gap between Japanese prices for sugar and dairy products, which represent roughly three-fifths of the costs of production, and the American industry's lower ingredient costs. The April 1988 halving of the chocolate tariff to 10 percent gave a one-two punch to exports, inflating them from about $9 million in 1985 to $44 million last year. The corresponding volume gain raised the U.S. share of consumption in the slow-growing Japanese chocolate market from 1 percent to an estimated 4 percent. These inroads, in turn, helped to lift the foreign market share by seven points to 11 percent in 1988. Additional gains will be harder, U.S. producers maintain, because of Japan's sales promotion restrictions and food standards (see below).

Candy is an entirely different matter. Over the last four years U.S. exports have increased by less than $3 million, limiting the 1988 figure to a mere $5 million. The reason is simple, makers say. Candy is a price-sensitive product and Japan's tariff still is 35 percent despite repeated American calls for a cut to the U.S. level of 7 percent.

Pharmaceuticals and Medical Devices - These products were one of the success stories of the MOSS discussions, the in-depth, high-level 1985 sectoral negotiations to improve Japanese market opportunities for extremely competitive American exports. After more than two years of fruitless bilateral discussion of the trade effects of Japan's regulatory system on U.S. manufacturers of drugs and medical equipment, Tokyo agreed in short order during the MOSS talks to implement 90 percent-plus of the changes proposed by the Reagan administration. In perhaps the most significant reversal, Japan, with a few exceptions, started accepting foreign clinical test data as the basis for registering new pharmaceuticals, medical devices and in vitro diagnostic reagents. The government also made the approval process for new products more transparent and faster and streamlined the product reapproval system.

These and other regulatory reforms have made it easier for American competitors to do business in Japan's big drug and medical equipment markets, U.S. industry and government officials agree. Yet neither this development nor the U.S. lead in a number of emerging Japanese growth markets are reflected fully in the export numbers. Sales of pharmaceuticals, for example, only increased from $570 million in 1985 to $785 million in 1988. One reason was an AIDS-related cutback in the formerly big trade in blood products. Perhaps more important, most big U.S. drug houses and, to a lesser extent, medical equipment companies (which posted Japan-bound sales of $420 million in 1988 -- up from 1985's total of $244 million) have manufacturing operations in Japan and/or have licensed production of major products to Japanese partners. In addition, American firms still face some regulatory hurdles in Japan, including the Ministry of Health and Welfare's process for revising new drug prices, but these problems, it appears, are not grist for Super 301.

Telecommunications Equipment - At the end of the MOSS negotiations on telecommunications equipment, Reagan administration trade policymakers admitted in off-the-record comments that the talks had succeeded beyond all expectations. Japan readily pared its technical standards for telecommunications terminal equipment (customer-premises equipment) to those designed mainly to prevent harm to the network. A similar criterion -- noninterference with the spectrum -- was established for radio equipment. Tokyo also allowed foreign manufacturers of CPE as well as radio equipment makers to submit their own test results, making self-certification possible, and it set up impartial systems for approving both types of equipment.

Although U.S. government officials have given Japan generally high marks for following through on these and other regulatory changes, many Washington watchers think telecommunications equipment is a leading Super 301 candidate because business has fallen far short of expectations. Japanese purchases, whether overall or from American manufacturers alone, admittedly have been modest, although imports have expanded in real terms. For example, U.S. exports of telecommunications equipment narrowly defined increased from $42 million in 1985 to only $118 million last year, a figure that included $93 million in telephone equipment. Inaccurate forecasts, however, are not automatic grounds for Super 301 designation. In any case U.S. access to Japan's telecommunications equipment market is on a different statutory track (see JEI Report No. 9B, March 3, 1989).

Motorola Inc., however, is trying to harness the Super 301 process to get Japanese action on some longstanding complaints about access to the wireless communications market. The company never has been satisfied with the Ministry of Posts and Telecommunications' 1987 decision to carve up Japan's cellular mobile communications market into service districts and to allow only one competitor in addition to Nippon Telegraph and Telephone Corp. in each area. The corporation adopting the Motorola system was assigned to the western part of Japan, while the firm using a competing domestic format was given the huge Tokyo/Nagoya region. Motorola also has been critical of MPT's handling of issues related to third-party mobile radio services.

General Regulatory Problems - With many of Japan's high tariffs on processed foods coming down, the U.S. food industry is zeroing in on what it considers to be another major deterrent to greater exports -- food standards. Despite promises of faster action, the Health and Welfare Ministry has been slow to recognize and permit the use of internationally accepted ingredients and new food additives. The same situation applies to approving new uses for already-approved additives. Even when additives are accepted for use, American food processors complain, Japan's standards often are more restrictive than those here and/or in Europe.

U.S. industry support for action on food additive issues, while broad, is too thin to have any impact on the Super 301 selection process. That also is true of Japan's industrial and agricultural product quality systems -- the

JIS (Japan Industrial Standards) mark and the comparable JAS (Japan Agricultural Standards) one, which are voluntary but are effective marketing tools. In this area, moreover, progress has been made. Several U.S. organizations like Underwriters Laboratories, Inc. now are allowed to conduct factory inspections and do product testing to certify that American goods meet the requirements for JIS and JAS marks. In addition, foreign manufacturers have some input in the JIS standards-drafting process.

Government Procurement Code - Tokyo also has reformed its own purchasing procedures and practices enough to make government procurement code implementation a noncandidate. According to the government, 81 percent by value of the contracts let in 1987 by the 67 Japanese organizations subject to the GATT procurement code were awarded on the basis of competitive tendering -- a figure it says compared favorably with the European Community performance but was below the U.S. ratio. In addition, information on the tendering process is more readily available, and bidders now have at least 40 days, the GATT minimum, to submit proposals. As a result of changes like these, Tokyo adds, government purchases of foreign products increased 26 percent in 1987 to Y54.8 billion ($438 million), which represented about 13 percent of the total procurement by the entities covered by the GATT code.

Promotional Restrictions - Restrictions on promotional activities are one reason sales in Japan of American consumer durables and nondurables are limited, U.S. industry and government officials long have argued. Newcomers to the Japanese market, whether domestic or foreign, regard sales promotions using coupons, rebates, sweepstakes or premiums as essential marketing tools for encouraging first-time and repeat purchases and creating brand awareness, yet, in the name of consumer protection, the country's Premium Law limits the value of promotional offers to "trifling" amounts. Some changes were made at the start of this year, but the United States considers them to be just a first step. Administration representatives therefore are expected to continue discussions with Japan's Fair Trade Commission.

The Short List

Probably seven products plus Japan's distribution system will survive the preliminary elimination rounds. A service sector also might be on the short list of candidates for Super 301 priority designation, most likely construction and engineering. The seven products expected to make the cut will do so for different reasons. For four of the probable finalists, barriers -- often informal -- prevent U.S. suppliers from realizing their full competitive potential. American producers of the other three last-round candidates are excluded from the Japanese market or at least an important part of it. This does not make them automatic Super 301 priority products. In fact, the products targeted for investigation and possible sanctions if market-opening negotiations fail probably will be drawn from the former group.

Rice - Twice in the last 30 months American rice growers and millers have tried to capitalize on election-year pressures and force the White House to challenge Japan's near-total ban on rice imports. Both times former USTR Clayton Yeutter thwarted the industry's attempt while acknowledging the merits of the Rice Millers' Association complaint (see JEI Report No. 42B, November 4, 1988). RMA once again is trying to take advantage of a favorable political climate to press its case against Japan's rice program. Interestingly, though, in comments recently submitted to the USTR's office the trade association did not specifically ask the government to target Tokyo's rice policies as part of the Super 301 process. Spokesmen earlier had indicated that that move was one of three options being explored.

The rice industry might have to look more closely at the alternatives (a regular Section 301 filing or a legislative response). The Bush administration does not seem inclined to go back on Washington's previous pledge that market access for foreign rice would be discussed only in the context of the Uruguay Round of multilateral trade negotiations. Even without that promise there appears to be little support in the government for tackling Tokyo's virtual import ban at this time. Having forced Japan last summer to agree to open its beef and orange markets, Washington is not anxious for a fight over the more politically sensitive rice issue, particularly when the potential gains to U.S. rice growers and millers are not as clear-cut as their trade group claims.

Satellites - Japan's satellite development program, a hot topic five years ago when U.S. concerns about Japanese industrial targeting were at their peak, no longer ranks as a major bilateral trade issue. The Bush administration shows no signs of reviving it, in part because of some modifications in Tokyo's previous ban on purchases of both applications (communications, broadcasting, weather and earth-observation) satellites and scientific spacecraft from foreign manufacturers.

After the domestic telecommunications market was deregulated in 1985, the Japanese government licensed two joint ventures to provide satellite communications services. Both companies -- Japan Communications Satellite Co., Ltd., a partnership of C. Itoh & Co., Ltd., Mitsui & Co., Ltd. and Hughes Communications Inc., and Space Communications Corp., a Mitsubishi Group venture -- contracted for American-built spacecraft and foreign launch services. JCSAT 1, a Hughes Aircraft Co. HS-393 satellite, was launched in March; JCSAT 2, another Hughes spacecraft, is scheduled to go up this fall. SCC's two satellites, Superbirds manufactured by Ford Aerospace and Communications Corp., also are set for launch this year.

Tokyo still prohibits purchases of foreign spacecraft by government-affiliated satellite users -- a ban that apparently covers NTT until the government becomes a minority stockholder in 1991 or 1992. But some cracks have appeared in this policy. NTT, which up to now has had to share space on a domestically built communications satellite with government agencies and private customers, reportedly has leased transponders on JCSAT 1. Moreover, earlier this year Japan Broadcasting Corp. (NHK), the country's public broadcasting company, ordered an auxiliary broadcast satellite from General Electric Co. to back up its malfunctioning spare until a new NEC Corp.-made spacecraft is launched in late summer 1990.

Supercomputers - On paper supercomputers are an ideal candidate for Super 301 priority designation. Cray Research Inc. is the world industry leader, producing perhaps three-fourths of the supercomputers now in use. Yet it has had trouble gaining anything more than a toehold in the Japanese market where it faces an aggressive trio of domestic competitors. The company has had some success in selling equipment to private-sector users, particularly Japan's automotive makers. The public sector, which includes research institutions and national universities as well as government agencies, is another story. Of the

14 supercomputers that Cray has delivered to Japan or has on order, only one -- a system ordered in the spring of 1987 by the Ministry of International Trade and Industry for its Agency for Industrial Science and Technology -- has gone in recent years to a publicly funded organization, although the government sector accounts for almost half of all supercomputer installations in Japan.

Repeated U.S. complaints that buy-national procurement policies denied Cray and Control Data Corp. (which recently announced that it was getting out of the supercomputer business) a fair chance to compete for publicly funded supercomputer contracts resulted in an August 1987 agreement on new procedures for public-sector purchases (see JEI Report No. 29B, July 31, 1987). Since then supercomputer contracts have been awarded by three organizations covered by the accord; all of them went to domestic manufacturers. Two other contracts still are out for bid, but Cray's Japanese rivals are thought to have the inside track on both.

To many American industry and trade analysts this record indicates that Japan still has not opened up its government supercomputer procurement market. Secretary of Commerce Robert Mosbacher echoed this assessment in mid-April. Lawmakers expressed their concerns about Japanese adherence to the supercomputer procurement pact by including a "sense of the Congress" section on bilateral supercomputer trade in the 1988 trade act. The decision to target Japanese government supercomputer purchasing practices for Super 301 treatment could come down to whether the White House is willing to make this move without Cray's public support.

Soda Ash - The same question could keep another seemingly ideal candidate -- soda ash -- off the final list. American suppliers of soda ash, used primarily in glass production, have a substantial cost advantage over their Japanese rivals. Makers here can extract the product from abundant natural soda ash ore, while producers in Japan must synthesize soda ash by chemical means, an energy-intensive process. Despite this competitive edge, which has been backed up by extensive sales efforts and major expenditures on delivery and distribution facilities, U.S. manufacturers have never been able to supply more than 20 percent of the Japanese market.

American chemical companies thought they had found the solution to their problem in April 1983 when the Japan Fair Trade Commission ordered the country's four soda ash makers to disband a cartel formed in June 1973 to limit the volume of soda ash brought in from the United States and to set the prices at which the imported product would be sold to end-users. U.S. exports, which totaled about 212,000 tons in 1983, did expand afterward but not much faster than domestic demand. Renewed American complaints prompted Japan's antitrust agency to take a second look at domestic industry practices. In a November 1987 report JFTC concluded that the four Japanese soda ash producers had not formed a new import cartel. Yet even though the dollar's decline had heightened their cost advantage, U.S. companies shipped only 272,000 tons of soda ash worth $38 million to Japan last year -- a volume equivalent to 20 percent of the market.

Soda ash makers were instrumental in getting Congress to make foreign government toleration of "systematic anticompetitive activities" by local companies an actionable trade practice under Section 301 in the 1988 rewrite of that statute, but their export association, American Natural Soda Ash Corp., has hesitated to ask the government to apply that provision to Japan. For reasons that are equally unclear, Japan was not among the seven countries that ANSAC, in a March submission to USTR, argued should be targeted for Super 301 investigations.

Wood Products - At first glance it is hard to see why wood products would make the short list of candidates for Super 301 priority designation. After all, Japan, the world's second-largest forest products market, is the major export customer for the U.S. forest products industry. In 1988, for example, sales of wood products to Japan came to $2.2 billion, more than double the 1985 figure, as both bigger volume and higher prices swelled the export total, while shipments of paper pulp, waste paper, and paper and paper products added another $1.1 billion to the industry's revenues. The National Forest Products Association claims, however, that exports of wood products would have been at least $1.2 billion greater last year if U.S. suppliers had been able to ship more value-added products like plywood to Japan instead of logs and wood chips, which together accounted for 79 percent of sales.

In a submission to USTR the forest products trade group presented a long list of factors that it said skewed Japan's purchases of wood products from the United States toward raw materials even though Japanese mills are not cost competitive. Starting with high tariffs and tariff escalation the list went on to unnecessarily restrictive building and fire codes plus wood products standards that often are based on design criteria rather than structural performance and ended with Tokyo's land and housing policies.

Japan's numerous tariff and nontariff barriers to U.S. exports of processed wood products were one of the subjects of the 1985 MOSS negotiations. They also were the least successful. The United States eventually won tariff concessions on finished lumber, plywood, veneer, particleboard/waferboard and some other wood products as well as on paper products, but the cuts were not as deep as Washington had wanted, particularly on plywood. Moreover, progress on technical barriers to trade was skimpy. Only two regulatory changes were negotiated during the talks -- designating foreign testing organizations to certify that American exports meet Japanese lumber and plywood standards and permitting expanded use of 4x8-foot panels in construction, although two other issues were resolved after the wrap-up of the MOSS discussions.

Given the number of regulatory problems left hanging at the end of the MOSS negotiations, U.S. trade officials expected additional meetings with their Japanese counterparts. Some technical talks have been held since 1985 but no high-level meetings despite several American requests. NFPA figures the only way to get the Ministry of Agriculture, Forestry and Fisheries back to the bargaining table is to make Japan's wood products barriers a trade-liberalization priority under the Super 301 provision. Pacific Northwest legislators, including Sen. Bob Packwood (R, Ore.) and Rep. Ron Wyden (D, Ore.), share the view that Tokyo will offer additional concessions on wood products only if it has a clear incentive to do so, like the threat of retaliation. The Bush administration could be swayed by these arguments.

Automotive Parts - The United States purchased nearly $9.2 billion worth of automotive parts, engines, bodies and chassis from Japan in 1988 while sending only $417 million the other way. To many American manufacturers of original equipment and replacement automotive parts, those numbers are graphic proof that domestic suppliers are finding it as hard as ever to crack the Japanese market despite a 10-year effort by government and industry to improve access, including a yearlong (August 1986-August 1987) discussion of automotive parts within the MOSS framework, and the enhanced price and quality competitiveness of U.S. producers. There also is agreement in the U.S. parts industry that the close ties between Japanese motor vehicle manufacturers and their traditional suppliers, not formal trade barriers, are the main reason American companies have trouble selling production parts to Japanese car and truck plants, whether in Japan or overseas, and gaining access to the worldwide aftermarket for Japanese vehicles.

Japan's automotive makers and parts suppliers have no quarrel with this description of the problem, but they do take issue with the argument that American parts makers are not making headway in winning business from Japanese car and truck builders. According to the Japan Automobile Manufacturers Association, overall purchases of American-made parts, accessories and materials by the 11 Japanese automotive makers climbed from $1.7 billion in FY 1985 to $3.1 billion in FY 1987. Moreover, purchases in the April-September 1988 period totaled $2.1 billion, 52 percent above the year-earlier level. The problem with using these numbers as the yardstick for measuring progress, U.S. suppliers are quick to point out, is that they combine parts exported to Japan with products purchased by the American production units of Japan's automotive manufacturers from transplanted Japanese parts operations as well as from U.S.-headquartered companies. And most of the growth has been in domestic sourcing by Japanese-affiliated automotive assembly plants.

With automotive products (cars, trucks and parts) accounting for 60 percent of the huge U.S. trade deficit with Japan in 1988, there is pressure on Capitol Hill and in some business circles for Super 301 action on automotive parts. The United Auto Workers union wants USTR to go after Tokyo's "toleration of anticompetitive activities by automotive vehicle producers" in their purchases of parts, components and materials. The Automotive Parts & Accessories Association also has asked the government to use the 1988 trade act to open Japan's parts market. The other major parts trade group, Motor and Equipment Manufacturers Association, has not taken a public stand, however. That alone might keep automotive parts off the final list. In addition, a number of government officials appear to be just as leery now of trying to negotiate private-sector barriers to foreign parts on a government-to-government basis as they were in 1986 when parts were added to the MOSS agenda.

Semiconductors - The odds-on favorite product for Super 301 priority designation is semiconductors. The U.S. semiconductor industry certainly feels it has a compelling case. In brief, Washington and Tokyo initialed a five-year agreement at the end of July 1986 designed to expand sales opportunities in Japan for American and other foreign semiconductor producers and to bring an end to what U.S. industry and government officials claimed were the predatory pricing policies of Japanese semiconductor makers in this country and in third markets. As part of the settlement pact the White House suspended two outstanding dumping complaints against Japanese suppliers as well as a Section 301 proceeding initiated by the Semiconductor Industry Association.

The agreement was in trouble almost from the start. Within months SIA representatives were charging that Japan was not living up to its side of the bargain. By early 1987 Reagan administration officials were threatening trade sanctions if Japan did not comply immediately with both the pricing and the market access parts of the arrangement. Implementation did improve but not fast enough to prevent President Reagan from taking the unprecedented step of slapping 100 percent penalty tariffs on $300 million worth of Japanese-made products in mid-April 1987. The president acknowledged Japanese progress in reducing third-country dumping two months later when he rescinded $51 million in sanctions. The other $84 million in dumping-related penalty duties were lifted in early November 1987 after U.S. government monitoring confirmed that Japanese-made commodity products like DRAMs (dynamic random access memories) were being sold both here and in third markets at fair prices.

The $165 million in damages attributable to Japan's failure to improve foreign access to its semiconductor market still are in effect. The Bush administration shows no more signs of yielding on these sanctions than its predecessor did. A rollback obviously is opposed by the U.S. semiconductor industry. At times, in fact, merchant manufacturers have considered pressing the government to up the sanctions, both as a prod to Japan to get purchases of American chips on a track that will enable U.S. makers to control 20 percent of the Japanese market by the end of the semiconductor trade agreement in August 1991 and as compensation to domestic suppliers for the shortfall to date.

According to SIA data, the U.S. market share averaged 10.7 percent for all of 1988 and 10.5 percent in the year's final quarter -- not much better than the historic level of almost 10 percent, which was where the 1987 figure came in. The trade group figures that American vendors should have supplied 12.5 percent of Japanese demand in last year's first quarter and 14.2 percent in the October-December period. The gap, SIA calculates, cost U.S. semiconductor manufacturers $490 million in 1988 on top of the revenues they lost in the second half of 1986 and in 1987 because of inadequate Japanese compliance with the semiconductor pact.

Tokyo repeatedly has tried to persuade Washington that Japanese semiconductor users have made good-faith efforts to buy more from American suppliers. The trade figures underscore this fact, government officials point out. U.S. semiconductor exports to Japan expanded from $235 million in 1985, admittedly a down year in the cyclical chip business, to $458 million last year, when an additional $253 million worth of dice and wafers also were shipped out. Japanese import data show a similar increase, with yen-denominated purchases from this country jumping 37.6 percent in 1988 alone. As further proof that market access has improved, Tokyo notes that Japan's six biggest semiconductor makers (NEC Corp., Toshiba Corp., Hitachi, Ltd., Fujitsu, Ltd., Mitsubishi Electric Corp. and Oki Electric Industry Co., Ltd.), which also are among the country's top chip users, now get 18.6 percent of their semiconductor supplies on average from foreign companies -- up four percentage points from two years ago. Considering the mismatch between the types of devices that overseas, mainly American, companies produce and what Japanese industry uses in volume, Tokyo feels these numbers demonstrate that steady progress is being made whatever the market share figures might indicate.

Key Bush administration officials remain unpersuaded. Both USTR Hills and Commerce Secretary Mosbacher have expressed strong dissatisfaction on several occasions about Japan's trade record on semiconductor market access. Influential legislators certainly think Japan has come up short. Equally important, the American Electronics Association, which represents major U.S. users of semiconductors and which frequently has been at odds with domestic semiconductor manufacturers over the trade pact, at least implicitly backs the SIA position that Japan's failure to implement the market access provisions of the semiconductor agreement should be identified as a Super 301 priority practice. That move now appears to be a foregone conclusion.

Distribution System - Japan's complex distribution system is a tempting Super 301 target for many American manufacturers of consumer durables and nondurables frustrated by the problems of marketing in Japan. The U.S. Chamber of Commerce, the only broad-based trade association to comment formally on the selection of U.S. trade-liberalization priorities, flagged Japan's distribution network as a good example of the type of generic or systemic trade practice Congress had in mind when it included the Super 301 provision in the 1988 trade law. For years administration economic policymakers also have argued that the distribution system is inherently anticompetitive. Nevertheless, the distribution system by no means is a shoo-in for priority designation. For one thing, new distribution channels for imports are opening up. More important, the Japanese government, responding just as much to domestic pressures as to foreign complaints, is on the verge of announcing changes in the administration of a law that has limited the expansion of large retailers -- the main target of official Washington's criticism (see JEI Report No. 11A, March 17, 1989).

For further information, contact Susan MacKnight.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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Japan's Trade Surplus Jumps

Reducing its enormous trade surplus has been one of Japan's priorities in recent years. For that reason the latest trade statistics came as bad news. Japan's overall trade imbalance rose 9.1 percent if measured in dollars in the January-March period compared to a year earlier, the third straight quarter of year-to-year increases (see Table).

Since 1985 when the American currency began dropping on foreign exchange markets, Japan's dollar-denominated imbalance has been an unreliable indicator of the changes in trade flows. But, in contrast to 1988 figures, the most recent news was just as unfavorable when the surplus was measured in other ways. The yen-denominated surplus, which more accurately measures the impact on the Japanese economy of exports and imports, generally has shown sharper quarterly declines and smaller increases in the surplus than the dollar measure. But in the latest quarter this difference disappeared in light of the near stability of the dollar against the yen compared to year-earlier levels. The yen-denominated surplus rose 8.9 percent, nearly matching the rate of increase in the dollar-denominated surplus.

The news concerning the trade surplus with the United States was no better. In both yen and dollar terms the imbalance grew by more than 15 percent, even though imports from the United States jumped 14.4 percent in dollars and almost as much in yen.

Coupled with the two earlier quarters' results, the latest figures are evidence that progress on reducing Japan's trade surplus has stalled. A number of experts suggest, however, that the latest figures are particularly unsuitable for assessing trends. They point out that:

- With the late emperor's death and funeral during the first quarter of 1989, Japanese consumer spending was unusually subdued. As a result, imports may have suffered during the quarter but could now be poised to rebound.

- In anticipation of the new consumption tax April 1, import patterns were skewed. Some purchases were advanced to avoid the tax, others delayed to take advantage of lower rates later.

- Despite the recent run-up, oil prices still were below year-earlier levels during the January-March period, reducing the reported year-to-year increase in import levels.

These arguments suggest that the quarterly figures may have been the net result of an unusually turbulent period for Japan's foreign trade, especially on the import side. Monthly figures provide some confirmation of this hypothesis. The total volume of imports dipped 2.7 percent in February compared to a year earlier but came roaring back in March, up an incredible 23 percent over March 1988.

Despite these factors, total yen-denominated imports on a quarterly basis continued to rise faster than exports and almost as rapidly as when the surplus was declining. The difference was that export expansion accelerated as well. The much larger base against which export growth is measured resulted in a swelling of the yen-denominated surplus. Until export growth somehow is slowed, the trade imbalance is likely to grow.

Exports were much less affected by extraordinary factors than imports during the January-March quarter, yet were remarkably healthy by any measure. Export volume rose 6.7 percent in January, 5.6 percent in February and 12.2 percent in March over the year-earlier periods. The growth in yen- and dollar-denominated exports was broad-based by region, with shipments to the United States, the European Community and virtually all Asian countries showing double-digit increases over year-earlier levels in March and somewhat smaller gains in previous months.

The latest quarter's results rounded out the data for Japan's fiscal year that ended March 31. For FY 1988 the trade surplus rose 4 percent in dollar terms over FY 1987. While other broad measures of international transactions, such as the current account, may well show a decline over FY 1987, many

Japan's Total Trade in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$170,114	15.8%	$136,503	8.0%	$33,611
1985	175,638	3.2	129,539	-5.1	46,099
1986	209,151	19.1	126,408	-2.4	82,743
1987	229,221	9.6	149,515	18.3	79,706
1988	264,917	15.6	187,354	25.3	77,563
1987: I	51,464	13.1	31,977	-3.1	19,487
II	56,931	7.1	36,380	15.8	20,551
III	57,855	5.6	38,346	27.2	19,509
IV	62,972	13.0	42,812	34.5	20,159
1988: I	60,279	17.1	44,505	39.2	15,774
II	65,179	14.5	47,260	29.9	17,919
III	67,169	16.1	47,258	23.2	19,911
IV	72,291	14.8	48,331	12.9	23,960
1989: I (p)	68,260	13.2	51,054	14.7	17,206

Japan's Total Trade in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y40,325	15.5%	Y32,321	7.7%	Y8,004
1985	41,956	4.0	31,085	-3.8	10,871
1986	35,290	-15.9	21,551	-30.7	13,739
1987	33,315	-5.6	21,737	0.9	11,578
1988	33,939	1.9	24,006	10.4	9,933
1987: I	7,960	-8.2	4,959	-21.7	3,002
II	8,153	-10.6	5,207	-3.6	2,946
III	8,507	-1.5	5,644	18.6	2,864
IV	8,694	-1.9	5,928	17.2	2,767
1988: I	7,713	-3.1	5,688	14.7	2,025
II	8,163	0.1	5,918	13.6	2,246
III	8,924	4.9	6,280	11.3	2,644
IV	9,139	5.1	6,121	3.3	3,018
1988: I (p)	8,709	12.9	6,504	14.3	2,205

Source: Ministry of Finance

Japan's Trade with the United States in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$59,937	39.9%	$26,862	9.0%	$33,075
1985	65,278	8.9	25,793	-4.0	39,485
1986	80,456	23.3	29,054	12.6	51,401
1987	83,580	3.9	31,491	8.4	52,090
1988	89,634	7.2	42,037	33.5	47,597
1987: I	18,001	7.8	6,986	11.3	11,015
II	21,181	1.2	7,592	-8.6	13,589
III	21,628	1.6	8,252	9.7	13,376
IV	22,770	5.6	8,660	24.7	14,110
1988: I	19,859	10.3	10,090	44.4	9,769
II	21,610	2.0	10,458	37.8	11,152
III	23,056	6.6	10,667	29.3	12,389
IV	25,109	10.3	10,821	25.0	14,288
1989: I (p)	22,814	14.9	11,539	14.4	11,274

Japan's Trade with the United States in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y14,221	39.7%	Y6,364	8.7%	Y7,858
1985	15,583	9.6	6,213	-2.4	9,369
1986	13,564	-13.0	4,918	-20.9	8,646
1987	12,148	-10.4	4,582	-6.8	7,566
1988	11,487	-5.4	5,388	17.6	6,099
1987: I	2,786	-12.7	1,083	-9.9	1,703
II	3,034	-15.5	1,086	-23.6	1,948
III	3,180	-5.2	1,215	2.1	1,965
IV	3,148	-8.2	1,198	8.5	1,950
1988: I	2,541	-8.8	1,290	19.1	1,251
II	2,706	-10.8	1,308	20.5	1,398
III	3,063	-3.6	1,418	16.7	1,645
IV	3,177	0.9	1,371	14.4	1,806
1989: I (p)	2,911	14.5	1,470	14.0	1,440

Source: Ministry of Finance

private analysts are expecting even these figures to turn upward in FY 1989. These experts are suggesting that the latest quarterly results could be a harbinger of a severe setback in Japan's efforts to rein in its trade surplus.

Douglas Ostrom

More Money For Less Work: Preliminary 1989 Shunto Results

With bargaining in most major industries completed, Japan's labor unions have won significant pay increases and reductions in working hours from employers in this year's spring wage negotiations or shunto. Approximately 12 million union members out of Japan's 45 million workers will see an average 5.1 percent gain in their monthly pay checks, well above the 4.4 percent average for 1988. The moderate increase should not lead to inflation, according to most observers.

In the past several years Japanese wages have been held down by two interrelated factors: slow economic growth and the negative effects of the yen's appreciation. Labor union leaders felt confident going into this year's shunto, however, because the situation has revolved 180 degrees. The economy's strong 5.7 percent real growth in 1988, the average 40 percent increase in last year's corporate profits and a relatively tight labor market strengthened the unions' positions in the negotiations. Trying to capitalize on these economic factors and the government's desire to spur consumer spending, labor unions demanded an average 6 percent increase in pay for fiscal 1989.

In a striking example of Japan's cooperative labor-management relations, however, unions on average have accepted well below a 6 percent raise (see Table). Management pressed for moderate wage hikes, citing the continuing erosion of Japan's international competitiveness due to the high yen. Workers in several industries, employers pointed out, already are the highest paid in the world. To inflate wages further would be detrimental to the long-term health of the economy. This argument actually is a smokescreen since initial estimates put 1988 productivity growth in the manufacturing sector 6 percentage points higher than gains in unit labor costs that year, with a somewhat narrower gap expected to persist in 1989.

Another indication of labor's highly flexible attitude is the wide spread of wage settlements among industries. Although improved from the previous year, settlements in the steel and shipbuilding industries still remain well below the average, whereas wage hikes in booming industries, such as computer software and leisure/travel services, are well above the average.

One effect of the tight labor market is to push wage increases at small and large companies in opposite directions. The clearest example is the gap between pay increases offered by large retailers (5.9 percent) versus small retailers (6.3 percent). Faced with shortages of semiskilled and unskilled workers, many smaller firms are offering greater pay incentives.

The strident negotiating demands of labor had raised fears that excessive wage gains could rekindle inflation. The moderate average settlements combined with a jump in prices at the consumer level could mean that workers actually lose ground in 1989 compared to last year. In 1988 the average pay raise was 4.4 percent, yielding a 3.7 percent real gain when the estimated FY

Mid-Term Results of the 1989 Spring Wage Negotiations

(as of April 17)

Industry	1988 (actual) Amount	1988 (actual) Change	1989 (preliminary) Amount	1989 (preliminary) Change	Monthly Wage	Average Worker Age (years)	Number of Firms
Manufacturing	Y9,168	4.08%	Y11,377	4.93%	Y231,942	35.3	805
Food	10,450	4.38	11,690	4.83	242,363	35.9	52
Textiles	10,028	4.52	11,837	5.21	227,451	36.8	55
Chemicals	11,258	4.59	13,294	5.25	252,957	36.6	62
Petroleum	10,858	4.43	12,381	5.13	240,007	30.0	6
Steel	4,625	1.93	6,348	2.60	244,791	35.3	40
Nonelectric Machinery	9,113	3.93	11,641	4.94	236,260	37.1	145
Electric Machinery	9,865	4.60	11,983	5.40	221,549	33.4	129
Shipbuilding	6,792	2.79	10,316	4.14	249,074	39.9	9
Automotive	9,081	4.14	11,590	5.10	227,314	34.9	100
Other	10,158	4.53	12,281	5.34	229,978	36.8	26
Nonmanufacturing	11,936	4.90	13,713	5.43	253,286	36.2	266
Construction	11,274	4.41	14,381	5.30	268,616	37.7	38
Commerce	10,490	4.71	12,797	5.54	231,967	34.7	30
Large Retailers	10,311	4.96	12,451	5.91	212,753	30.6	33
Small Retailers	11,942	5.58	13,575	6.26	216,591	28.7	6
Rail and Bus	11,132	4.56	13,572	5.37	252,858	39.5	43
Air Transport	13,265	4.45	13,891	4.51	322,902	28.3	9
Communications	14,162	5.72	14,183	5.46	259,417	38.1	2
Electricity	12,000	4.70	13,900	5.22	265,326	34.2	8
Gas	11,856	4.69	13,796	5.21	264,674	34.8	11
Hotel and Travel	13,727	5.41	15,620	6.07	256,163	32.7	14
Leisure	11,164	4.85	12,781	5.42	233,979	34.0	6
Consumer Credit and Leasing	8,749	5.02	9,322	5.19	179,585	27.6	1
Information and Software	11,050	5.51	13,051	6.22	208,294	28.4	7
Average	10,132	4.37	12,218	5.11	239,624	35.6	1,071

Source: *Nihon Keizai Shimbun*, April 21, 1989.

1988 consumer price increase of 0.7 percent is deducted. For FY 1989, however, the government expects consumer inflation to hit 2 percent, reducing the nominal 5.1 percent 1989 wage gain to just 3.1 percent in real terms. Some worry that a possible drop in real wage gains will impact consumer spending and cause domestic demand to falter.

The benefits from this year's talks were not all monetary. Many employers agreed to reduce the number of working days a year by one to three days. Honda Motor Co., Ltd., for example, cut the average work year by 24 hours to

1,956 hours. Toyota Motor Corp. added two extra days off, while Nissan Motor Co., Ltd. added only one. The government is encouraging employers to reduce working hours to an average of 1,800 by 1993 to raise the quality of life and, it hopes, to boost consumer spending.

Although most of the major industries settled wage talks by April 10, the banking, securities and life insurance sectors continue to hash out details. Given the large size of these sectors, it is possible that the final average wage increase for 1989 could be even higher than 5.1 percent.

Jon Choy

Koito Decides To Dance With Boone

The management of Koito Manufacturing Co., Ltd. announced April 19 that it was dropping objections to the purchase of 20.2 percent of the company's outstanding shares by Boone Co., an American merchant bank controlled by T. Boone Pickens Jr. When Boone first announced that it had contracted to buy into the top shareholder spot at Koito April 3, the Japanese business community was shocked (see JEI Report No. 15B, April 14, 1989). Many Japanese immediately jumped to the conclusion that Mr. Pickens' sole intent was to pressure Koito or its institutional backers (Toyota Motor Corp. owns 19 percent) to buy back the shares at an inflated price. Although this "greenmail" is not unusual in Japan, the fact that a foreigner was involved sent ripples through the Tokyo market.

Koito's management tried to delay the transfer of share ownership by claiming that Boone's application failed to indicate that Koito produced aircraft parts, thus bringing up questions of compliance with Japan's securities laws and of the impact on Japan's national security. The Ministries of Finance and International Trade and Industry both investigated. And to the surprise of Japanese and foreign observers, both agencies declined to block the sale after making some vague statements about possible violations by the company that sold the shares to the American merchant bank.

In a show of solidarity most Japanese investment analysts said that Boone had paid too high a price for the shares. The market agreed; Koito's share price fell sharply after Boone announced its acquisition. Foreign stockbrokers in Japan said that Koito's stable shareholders and other Japanese investors very possibly could act to frustrate Boone's moves by simply refusing to trade the company's stock.

Faced with government inaction, however, Koito abruptly changed its tune. In a meeting with Mr. Pickens, Koito's management accepted Boone as a friendly stable investor but demurred over granting the company's request for three seats on the board of directors. Explaining that Japanese custom leans against granting a seat to a new (if largest) investor, Koito said it would, instead, formally study the application. Since no deadline was set for completing the study, market watchers speculate that Koito will try to exhaust Mr. Pickens' patience before granting him a seat. In response to Boone's expressed desire to improve Koito's operations, Koito general manager Tamotsu Aoyama is quoted as saying Mr. Pickens "has no experience in a manufacturing industry, so we don't recognize him as a manager."

Boone is willing to wait, according to Mr. Pickens, and may even increase its stake in Koito in the interim. "We're not trying to run or take over Koito," Mr. Pickens asserts in press reports. "We see no reason why we can't work together." Mr. Pickens also says that he has received support from many Americans concerned about the apparent imbalance of access between Japanese buying into American companies and foreigners trying to buy into Japanese firms. According to press reports, many foreign firms are watching the Koito-Boone situation closely. American and European investors apparently have visited Japan recently to explore the potential for acquisitions and mergers. More specifically, Citicorp reportedly is talking with two Japanese commercial banks. With Japanese companies planning to increase their foreign investment activities in 1989, the Koito-Boone deal could mark a turning point in Japan's M&A market.

Jon Choy

FSX Deliberations Continue

Another two weeks have passed without any clear sign of progress in the bilateral dispute concerning Japan's next-generation fighter support aircraft, FSX. Informed sources contend that the United States and Japan are close to agreeing that 40 percent of FSX production will be performed by American companies. Tokyo also reportedly is more willing to assure that Japanese technological improvements will flow back to the United States. Failure to agree on these key issues, among others, has held up the transfer to Japan of General Dynamics Corp.'s F-16 fighter technology on which the FSX will be modeled.

Although officials involved in the talks will not divulge details, they suggest that additional sticking points continue to forestall a final resolution. The two governments have yet to agree on the vehicle for Japan's new commitments, that is, will they be amended to the November 1988 memorandum of understanding or attached as a side letter. In addition, Tokyo apparently has slowed the deliberative process with its questions concerning how various production work will be apportioned.

Some analysts suggest that the Recruit Co., Ltd. influence-buying affair also has weakened Tokyo's ability to formulate a coherent negotiating strategy and has exacerbated bureaucratic differences over the terms of the "modified" arrangement. However, it remains to be seen whether or not or to what extent Prime Minister Noboru Takeshita's April 24 announcement of his resignation will affect Japan's position on the MOU "clarifications" Washington is demanding (see JEI Report No. 14B, April 7, 1989). At this stage, no one is willing to speculate about when a final agreement might be reached.

In the meantime, congressional review of the FSX agreement continues. An April 18 hearing before the House Banking subcommittee on economic stabilization featured testimony from representatives of both business and labor. William Holayter, legislative director for the International Association of Machinists and Aerospace Workers, offered familiar arguments opposing the FSX accord. The deal, he said, amounts to a Japanese technology grab that ultimately will damage U.S. industry.

Mr. Holayter also underscored a theme that undoubtedly will be explored when Congress turns its attention to the U.S. defense industrial base, probably

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WOMEN IN JAPAN'S LABOR FORCE

Summary

Despite constitutional guarantees of equal rights and an equal opportunity employment law passed in 1986, Japanese women continue to lag behind their male counterparts in the workplace. Traditional family values still are entrenched in Japan. And most people, women as well as men, believe that the wife should remain at home to rear the children. In spite of this domestic ideal, economic pressures have continued to force some women to work, while others seek jobs for self-fulfillment, driven in part by the effort of highly educated women to find jobs that match their abilities. While the percentage of women in the workforce continues to climb gradually, women still trail men in terms of wages and management positions. Given Japan's changing economy and current labor shortage, women could play a key role in the labor force. Yet society itself may decide that the economic benefits of expanding women's roles in the workforce are not worth the accompanying changes on the domestic scene.

Overview

The 14th article of the 1947 Japanese constitution, imposed on Japan by the American occupation forces, sets forth a legal guarantee of equality. Unlike the sometimes vague rhetoric of the American constitution, the Japanese document states that people are equal and will not be discriminated against due to race, creed, sex, social status or family origin. This equality is to govern relations in political, economic and social spheres. Similarly, the 24th article guarantees the equal rights of both spouses in marriage.

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Given this constitutional status, it is surprising to many Westerners that Japanese women have been unable to achieve a more equal status in the workplace since the end of World War II. Perhaps, in Western eyes, it is even more surprising that there is not a stronger women's rights movement in Japan to make the goals of equality a reality.

The legal rights of Japanese women were strengthened by the passage of the Equal Employment Opportunity Law of 1986. Under the law many discriminatory practices, such as advertising that a position should be filled only by a person of a certain sex, were supposed to end. But many Japanese remain concerned about whether the legislation is having a significant impact. The law is designed to prevent unfairness in hiring, promotion and assignment procedures. But there are no penalties for companies that do not comply. In a late 1988 survey by *Nihon Keizai Shimbun* only 3.5 percent of the responding companies said that they provided new management positions to women as a result of the law. (About 25 percent of the companies already had programs to promote women managers.) Reflective of arguments heard in the United States against passage of the Equal Rights Amendment is a concern in Japan that implementation of the law may be halfhearted or cause a loss of certain privileges that were designed to protect women. Among the considerations given to women are provisions allowing time off for those unable to work because of menstrual problems. Each company is allowed to decide whether the time off is granted with pay or not. Women are required to get verification from coworkers and then request the time off from their supervisors.

Women also are granted pensions at an earlier age than men -- currently age 55 versus 60 or 65 for some male workers, but the corollary is that women are expected to quit work earlier. Equality in this area might serve to keep skilled women in the workforce longer -- especially since their longevity averages 81.4 years -- as well as helping to delay pension outlays.

Attitudinal Roadblocks

A major obstacle to women being able to expand their positions in the workforce is societal values. Most Japanese prefer the traditional family structure of father working outside the home, mother at home with children. Most women quit their jobs when they marry, usually between the ages of 22 and 28, or almost always when they have their first child (usually within a few years after marriage). The mother typically stays home with the children and is preoccupied with furthering their education (see JEI Report No. 7A, February 17, 1989).

But values seem to be changing, and more women are expressing the desire to work outside the home. In a 1984 survey by the Prime Minister's Office women respondents were divided almost evenly about the statement: men should work outside the home while women should work inside the home (49.2 percent agreed while slightly more, 50.8 percent, disagreed). Men, however, tended to agree with the statement almost 3 to 1 with 62.7 percent in favor and 37.3 percent against. As recently as 1972 more than 80 percent of those polled agreed with the statement. Another survey, this one conducted by the Tokyo

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Metropolitan government in February 1988, showed that even in metropolitan areas traditional values still are strong. The majority of people, 83 percent of the men and 77 percent of the women, felt that women who work still should bear the chief responsibility for childcare and housework.

Patterns of Employment

The employment pattern of Japanese women has changed relatively little in recent years. Most young women complete high school despite the fact that it is not compulsory. (About 94 percent of all students attend high school, of which only about 1.5 percent drop out.) Approximately 35 percent of female secondary school graduates go on to a two-year junior college, where 90 percent of the students were female in 1987, or they attend four-year universities, at which 25 percent of the student body was female in 1987. Most young women therefore are either in school or employed. Their careers normally are cut short for marriage and children after five to 10 years of working. Since the average Japanese family has two children and the woman usually remains in the home until the children are in school, this represents a 10- to 15-year period during which the woman is out of the workforce.

Her return usually is to part-time work, which at least initially gives her the flexibility to be home when the children are not in school. Having taken off from work for a number of years, most women never are able to return to the career path. In fact, the salaries of women over age 30 tend to be relatively flat. Their male counterparts can expect their salaries to increase to a certain point as they enjoy the benefits of a society in which promotions are based more on seniority than on merit. Thus, it is difficult for a woman to "make up" for the years she stayed home, even if this time is kept to a minimum.

This pattern of working, dropping out to raise a family and reentering the workforce is one of the factors behind women's unequal status in jobs and salary in Japan. Given the societal expectation that women will be working primarily in the home as wives and mothers, many parents choose to send their daughters to a two-year college rather than to a four-year university. In choosing a major many women study nonbusiness subjects, such as nutrition and home economics. Since firms expect the average female employee to work no more than seven years, they are loath to invest time and money in training. According to the *Nihon Keizai Shimbun* survey released in late 1988, it takes a woman college graduate an average of 12.2 years to reach the position of section leader, the lowest management level.

Young women who work for companies often are put in clerical jobs that may require little of their abilities. Given boredom in the workplace, lack of responsibility and no future goal toward which to strive, coupled with the general affluence of the nation, many women are willing to quit this type of *ippan shoku* (clerical track) job. Even when women are able to move from an *ippan shoku* to a *sogo shoku* (general track from which all management candidates are selected) job, the change is not necessarily reflected in a commensurate salary or responsibility.

Another reason women in Japan have fallen behind men in job status and salary is because, as previously noted, many end up as part-time employees. Close to half of the female population over the age of 15 works, comprising 40 percent of the workforce in 1987. At least one-third of those are part-time employees. But women represented 75 percent of the part-time workforce in 1987.

One factor that may contribute to the relatively high proportion of part-time female workers is that only 15 percent of corporations have implemented maternity or childcare policies, according to an article in the Liberal Star, a Liberal Democratic Party publication. Most public day-care centers must close at 6 p.m., which is too early for many career-oriented parents. Government regulations that specify the hours during which the centers can operate help slow the growth of such services. Another issue involves jurisdiction. Some say the day-care problem is limited primarily to urban areas, such as Tokyo, and thus should be solved at the local government level. New policies proposed by the Health and Welfare Ministry include extending day-care hours until 7 or 8 p.m. and accepting infants under one year of age.

Women are making more progress in certain sectors that are noted for employing high percentages of females. In 1988 a record number of women were company presidents, heading 4.4 percent of all companies and 3.5 percent of firms capitalized at more than Y1 million ($8,000 at Y125=$1.00). Of the top 100 companies run by women, ranked by sales, last year, 73 percent of the women succeeded their fathers or husbands who had died or become ill. These businesses were mostly in fields often associated with women, such as women's and children's clothing, wholesale and retail sales, and real estate leasing. Despite the rising number of women at the top, nearly 70 percent of the respondents to the late 1988 Nihon Keizai Shimbun survey believe that the highest management position women can achieve is department head, which is the level between section leader and division chief.

Some Japanese argue that even though women usually are not heads of business or government this does not mean that women are not equal. They point out that in Japanese culture people at the top often do not wield true power; their subordinates run the show. These Japanese assert that women have a great deal of power within the family, especially since they tend to control the family finances. This argument then is extended to the workplace. However, despite brief periods when Japan had an empress rule the country or when upper-class women in medieval times shared inheritance rights with men, the tradition of the country has been male-dominated.

Underscoring the differences in attitudes between those who feel discriminated against and those in charge is a report released by the Prime Minister's Office in March. The government found that 63 percent of the women surveyed felt that despite the 1986 Equal Employment Opportunity Law they do not receive equal treatment. In contrast to their female employees' opinion, half the companies surveyed believed that they treated women equally even before the passage of the law.

Barriers to a Management Role

The levels of responsibility that working women can hope to attain remain low despite changes in the employment law. As an example of many agreeing to the concept of equality but few being willing to actively go along with it, more than 65 percent of the respondents to an Asahi Shimbun survey in 1986 favored the idea of women in supervisory positions, but only 23 percent said they would want to work for a woman. The Nihon Keizai Shimbun poll found that only 1.29 percent of managers are women. For women in key positions, such as division chiefs and directors, the figures are even lower, less than 0.2 percent.

One factor hindering women's rise to the management ranks is the attitude of male colleagues. Companies are supposed to work toward achieving more equality, according to the law, but corporate rules do little to affect the perceptions of those who work with female professionals. Many men complain that they do not know how to treat female coworkers, especially under certain circumstances, such as working overtime or obligatory after-hours socializing with clients. While a woman usually can earn the respect of her coworkers through daily contacts, many companies are concerned about the reactions of their clients if they must deal with a woman.

Another reason it is difficult for women to reach management-level positions is that they are traveling along the wrong track in their company. It is difficult for women to switch from an almost exclusively female clerical track to a more career-oriented track.

Women employees are missing not just the management track but also are losing in the salary race. Men earn higher salaries in most positions in comparison with female counterparts. Not only is the base salary different, but, according to a Labor Ministry report released in March, the salary increases enjoyed by male workers outpaced those of female workers in 1988. Furthering the gap in wage differentials, men's monthly wages climbed 2.6 percent from 1987 while those of women went up by only 2.2 percent.

A decision facing many Japanese women who want to follow a career path is whether they will make sacrifices not required of male counterparts. Specifically, many women feel that they do not have time for marriage or children in the early stages of their career. One president of a large wholesaler of women's wear admitted that she had had several abortions when she was young because she felt that having a child would end her career. Today she believes that companies have a responsibility to the health of mothers and to provide more day care to enable women to return to the workforce.

According to many business people in Japan, the achievement of equal rights in the workplace under the 1986 legislation will not occur until women become more serious about their careers. These forecasters stress the need to develop qualities like professionalism and a willingness to take responsibility. But according to the Nihon Keizai Shimbun survey, the qualities desired in a manager vary by sex. In men desired qualities include enthusiasm and creativity as well as a willingness to assume responsibility, while in women cooperativeness was stressed along with attention to detail.

Entrepreneurs

Some women are taking their own track to success. Many who want to start back to work after taking time to raise a family quickly have realized that they have been left behind by career-oriented compatriots. The field of education and teaching is considered one in which women can do well after being away from the daily grind or even for those starting out. Public school teachers enjoy some of the best maternity leave benefits available. Gradually the percentage of women who are becoming teachers, especially at the primary school levels, is rising. Women account for 56.5 percent of primary school teachers, 34.5 percent of junior high school teachers and 18.2 percent of high school teachers. The most prestigious positions, however, continue to elude women as 38.4 percent of junior college professors are women but only a scant 8.6 percent are university professors.

Making headlines in more competitive arenas, however, are people such as Hiroko Minami, the head of Bi-Lingual Corp., an international chain of language schools. To this recently divorced mother business success was crucial. After learning the trade by running a school for nine years, she began to expand, opening new schools and hiring women like herself to be managing directors. In 1988 Bi-Lingual expected to have $50 million in revenues.

Another field in which women have excelled is in the clothing business. Two prominent figures are the internationally reknowned designers Hanae Mori and Rei Kawabata. Less visible to the public are a number of women who have risen to be presidents of wholesale/retail apparel firms. Chieko Ishii returned to the retail end of the clothing business after a 17-year hiatus. Having made her store the most profitable in the Leilian Co., Ltd. chain, Ms. Ishii was made the company's first marketing director. That position gave her the visibility that led to her being named president of Printemps department store. Another success in the apparel industry is Kinuko Kojima, who became the president of her own firm. Realizing a need for formal black funeral dresses as an alternative to kimonos, Ms. Kojima created a niche for her product, which had sales in 1987 of $127.2 million.

Influences for Change

At least three different forces are going to continue to press for more women in the workplace. The aging labor force is one of the considerations facing Japanese businesses (see JEI Report No. 10B, March 10, 1989). Second, women who have worked hard to achieve higher levels of education will continue to push for more commensurate rewards for their efforts. Lastly, there is the increasing influence of foreign companies. These companies may not have the prestige and security of employment to hire male graduates from top Japanese universities. But foreign companies are snapping up bright Japanese women who often view these employers as their best path to promotion and responsibility.

One way that some savvy Japanese women are looking to leap ahead into the management field is through study abroad, primarily by getting a masters in business administration from American universities. These women tend to work in Japanese branches of foreign companies. But some Japanese companies are starting to look more closely at these female candidates as they have proven to be very qualified employees for their U.S. rivals.

These new trends have some Japanese social critics worried. They point to what they see as the ill effects of more jobplace equality, and they warn Japanese women against emulating American career women. A Japanese professor from the University of Tokyo, Sukehiro Hirakawa, argues that the side effects of American women's liberation have included high divorce rates, child abuse, juvenile delinquency, low education levels and a high crime rate. Thus, women's liberation is indirectly responsible for the decline of America, he said, summarizing that Japan should not try to emulate the U.S. struggle for equal rights but should commend Japanese mothers and homemakers for ensuring the country's prosperity.

Conclusion

With the difference in cultural traditions between other industrialized nations and Japan, it is not clear how much momentum is behind the push to ensure women total equality in the workplace. The Equal Employment Opportunity Law of 1986 was passed in part due to gaiatsu, or foreign pressures, stemming from the United Nations effort to eliminate discrimination as part of its Decade for Women, which ended in 1985. As Japanese society struggles to make its views compatible with both international opinion and domestic laws, some labor practices are likely to change. But the country will be looking to strike a balance, one that avoids some of the negative results Japan sees as linked with the high proportion of women in the workforce in the United States.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Table 1: Labor Force Survey, 1980 and 1988

(in thousands)

	1980	1988
Population Age 15 and Older	89,320	98,490
Men	43,410	47,900
Women	45,910	50,590
Labor Force	56,500	61,660
Men	34,650	36,930
Women	21,850	24,730
Labor Force by Age Distribution		
Men	100.0%	100.0%
15-24	10.2	10.7
25-34	27.7	21.0
35-44	24.7	26.3
45-54	21.1	21.9
55-64	10.9	14.7
65+	5.3	5.3
Women	100.0	100.0
15-24	15.9	15.6
25-34	21.8	17.3
35-44	24.5	25.9
45-54	21.8	22.9
55-64	11.6	13.0
65+	4.3	5.2
Labor Force Participation Rates	63.3	62.6
Men	79.8	77.1
Women	47.6	48.9
Labor Force Participation Rates by Age Distribution*		
Men	100.0	100.0
15-24	43.0	41.9
25-34	96.4	96.8
35-44	97.9	97.3
45-54	96.4	96.0
55-64	85.0	81.9
65+	40.9	35.4
Women	100.0	100.0
15-24	43.8	42.8
25-34	48.4	53.7
35-44	61.0	64.2
45-54	61.9	65.0
55-64	45.2	44.8
65+	15.5	15.3
Employed	55,360	60,110
Men	33,940	36,020
Women	21,420	24,090
Unemployed	11,400	15,500
Men	7,100	9,100
Women	4,300	6,400

Table 1 continued

	1980	1988
Distribution of Employed People by Employment Status		
Men		
Employees	77.3%	79.9%
Self-Employed	19.4	17.4
Family Workers	3.3	2.6
Women		
Employees	63.3	69.5
Self-Employed	13.7	11.8
Family Workers	23.0	18.7
Employed People by Industry		
Men		
Agriculture and Forestry	2,600	2,190
Fisheries	340	300
Mining	100	60
Construction	4,720	4,750
Manufacturing	8,400	8,830
Utilities	260	270
Transportation and Communications	3,090	3,050
Wholesale and Retail Trade	6,720	7,220
Finance, Insurance and Real Estate	1,040	1,220
Services	4,940	6,320
Government	1,660	1,620
Women		
Agriculture and Forestry	2,720	2,150
Fisheries	110	100
Mining	10	10
Construction	760	850
Manufacturing	5,270	5,710
Utilities	40	40
Transportation and Communications	410	480
Wholesale and Retail Trade	5,760	6,670
Finance, Insurance and Real Estate	870	1,140
Services	5,070	6,520
Government	330	320

*1988 figures are not available; 1987 data are used instead.

Source: Ministry of Labor

Table 2: Reasons for Leaving Work by Sex and Industry, 1987

(in thousands)

	Total	Contract Termination	Employers' Convenience	Retirement Age	Own Responsibility	Own Convenience	Sickness and Injury
Women							
All Industries	2,090.5	202.7	116.2	48.4	79.5	1,603.4 (335.8)*	40.3
Mining	2.2	0.5	0.5	0.1	0.0	1.0 (0.3)	0.0
Manufacturing	646.4	43.2	64.6	19.6	22.7	482.8 (82.9)	13.6
Utilities	6.3	4.0	0.2	0.2	-	1.9 (1.0)	0.0
Transportation and Communications	54.8	10.8	2.2	2.2	2.4	36.8 (6.7)	0.5
Wholesale and Retail Trade	670.3	56.8	20.7	9.9	35.6	534.6 (107.4)	12.7
Finance and Insurance	170.4	8.0	3.3	1.4	2.1	152.7 (44.8)	2.9
Real Estate	11.1	0.9	0.6	0.1	0.3	8.9 (2.2)	0.3
Services	529.0	78.6	24.2	14.8	16.4	384.7 (90.6)	10.3
Men							
All Industries	1,750.0	110.6	196.3	127.9	102.1	1,158.5	54.7
Mining	16.1	3.3	7.2	1.2	0.1	3.9	0.3
Manufacturing	634.5	58.2	88.9	51.3	31.9	384.1	20.1
Utilities	7.8	0.8	1.8	3.6	0.0	1.3	0.4
Transportation and Communication	241.6	11.4	30.3	22.1	17.8	151.5	8.4
Wholesale and Retail Trade	487.1	12.8	30.0	22.7	37.0	375.3	9.3
Finance and Insurance	38.2	0.8	4.0	8.5	0.6	21.9	2.4
Real Estate	13.6	0.6	2.5	1.5	0.3	8.3	0.4
Services	311.2	22.7	31.7	17.0	14.4	212.0	13.4

*Figures in parentheses indicate women who left work due to marriage, pregnancy and child care.

Source: Ministry of Labor, Yearbook of Labor Statistics 1987

Table 3: Wage and Work Hours Comparison by Sex and Age, 1987

(all industries)

	Length of Service*	Regular Hours	Overtime Hours	Monthly Contractual Earnings**	Annual Special Earnings**
Women					
Under 18	1.3	189	3	Y104.8	Y126.4
18 - 19	1.0	183	7	124.2	117.7
20 - 24	2.8	177	9	146.6	438.1
25 - 29	5.5	175	9	168.6	610.8
30 - 34	7.8	177	7	176.7	611.6
35 - 39	8.6	180	7	178.0	573.7
40 - 44	9.3	182	7	178.8	551.6
45 - 49	10.3	184	7	174.7	526.6
50 - 54	12.1	185	6	174.8	514.5
55 - 59	13.1	185	6	182.2	527.1
60 - 64	13.1	186	5	176.8	460.0
65 +	15.9	186	3	177.0	449.2
Men					
Under 18	1.1	194	6	114.3	87.6
18 - 19	1.1	185	21	149.2	138.1
20 - 24	2.8	181	23	179.3	415.9
25 - 29	5.4	180	22	220.7	685.4
30 - 34	9.3	180	20	266.8	907.4
35 - 39	13.0	180	18	307.3	1,100.8
40 - 44	16.5	179	16	339.9	1,293.5
45 - 49	19.0	180	15	356.6	1,389.5
50 - 54	20.0	181	15	321.4	1,321.1
55 - 59	17.9	183	13	303.5	1,026.0
60 - 64	11.0	188	8	240.3	631.7
65 +	12.4	189	6	221.2	518.5

*In years.
**In thousands of yen.

Source: Ministry of Labor, Yearbook of Labor Statistics 1987

Table 4: Wage and Work Hours Comparison by Sex and Education, 1987

(all industries and all sizes of enterprise)

	Average Age	Length of Service*	Regular Hours	Overtime Hours	Monthly Contractual Earnings**	Annual Special Earnings**
Women						
Lower Secondary	47.0	10.1	186	7	Y145.2	Y370.8
Upper Secondary	33.3	6.7	180	7	163.8	501.4
Junior College	28.5	5.0	174	8	180.6	600.8
College/University	30.4	5.2	172	8	217.6	758.1
Men						
Lower Secondary	46.1	15.0	185	21	270.9	730.9
Upper Secondary	37.3	12.2	181	19	273.9	922.3
Junior College	35.0	9.2	181	17	265.7	895.6
College/University	36.3	10.7	174	13	329.6	1,409.0

*In years.
**In thousands of yen.

Source: Ministry of Labor, Yearbook of Labor Statistics 1987

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JAPAN'S FISCAL POLICY: WHERE'S THE DEBT?

Summary

Japan's fiscal planners continue to suffer an embarrassment of riches. The budget surplus from FY 1987 set a record, and tax revenues probably will outstrip estimates again once all FY 1988 figures are in. This allows Tokyo to expand spending for defense, foreign aid and public works while simultaneously cutting the current budget deficit sharply. The Ministry of Finance is confident that it can fulfill former Prime Minister Yasuhiro Nakasone's pledge to eliminate the need for deficit-financing bond issues by FY 1990.

Realizing that the current surfeit is a temporary situation, government fiscal planners are laying the foundation for future solvency. The recently introduced 3 percent consumption tax is a controversial example. More fundamentally, the structure of Japan's fiscal system is increasingly out of step with the rapidly evolving Japanese economy and financial system.

Foreward

The FY 1989 general account budget had not received full Diet approval at JEI press time; thus, it may appear premature to examine fiscal policy developments. The Diet process, however, has not been halted because of disagreement over the contents of the budget but rather over unrelated political issues. No changes to the spending plans laid out in the general account and the Fiscal Investment and Loan Program, a second capital budget, were made by the lower house, and it is highly unlikely that the upper house would seek modifications. As for taxes, the cabinet has submitted some minor technical corrections for FY 1989. If major reforms are to be proposed in FY 1989, they most likely will be the subject of a special Diet session. On both the spending and the tax fronts, therefore, what the cabinet adopted in January is likely to become law without alterations.

Overview

Until FY 1987 Tokyo steadfastly pursued an austere fiscal policy not only to halt the growth of the government's current and cumulative debt but to pare it back. Japan's large current account surpluses generated foreign pressure to stimulate its domestic economy, which Tokyo did through sharply increased public works spending. Current fiscal policy, however, is something of a paradox: keeping commitments to expand particular types of spending while cutting the overall deficit. Tokyo can do this in part due to booming revenues but also because it has another capital budget, the Fiscal Investment and Loan Program.

General Account Expenditures - The turning point in Japanese fiscal policy is clear from Table 1. The sharp jump in the growth of the general account budget in FY 1987 marked the end of an "austerity-only" policy and the start of the current "austerity/expansion" policy. Most budget categories showed growth rates several times the level of the previous year, most notably public works (from 0.3 percent to 6.9 percent), economic cooperation (from 3.3 percent to 10.1 percent), education and science (from -0.4 percent to 3.6 percent) and miscellaneous outlays (from -5.6 percent to 4.6 percent).

FY 1988 outlays continued the trend but with several noticeable changes. Foreign aid and defense remained safe from the budget cutters' knives. The modest 3.2 percent gain for economic cooperation is misleading, because some related outlays, such as increased trade insurance for debt-strapped countries and funds to support United Nations activities, are hidden in other categories. Most other budget line items show reductions, many of which not only erased but surpassed the gains of the previous year. Under normal circumstances many of the shortcomings of the initial budget are amended by a supplemental budget approved in the second half of the fiscal year. While FY 1988's supplemental spending plan was large compared to recent years, several of the categories that normally are beefed up were left out, such as small business assistance, energy programs and regional development projects (see Table 2). Instead, the largest chunks of discretionary funds were directed at a special replenishment of the public welfare insurance fund and a reduction of the outstanding national debt. (The amount of transfers to local governments -- the largest expenditure item -- are mandated by a fixed tax revenue-sharing formula.)

FY 1988's public works spending indicated another new development. Tokyo is committed to boost domestic demand in part through increased investment in roads, bridges and other infrastructure projects. The Ministry of Finance, however, now appears to dislike using the general account budget for this purpose as shown by the 10.1 percent decline (despite added funds from the supplemental budget) in last year's public works category. As will be detailed later, the Fiscal Investment and Loan Program is now the favored vehicle to support public works.

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Table 1: Japan's General Account, FY 1985-FY 1989

(in billions of yen and percent change)

	FY 1985 (revised)		FY 1986 (revised)		FY 1987 (revised)		FY 1988 (revised)		FY 1989* (initial)	
Total Expenditures	Y53,222.9	3.3%	Y53,824.8	1.1%	Y58,214.2	8.2%	Y61,851.7	6.2%	Y60,414.2	6.6%
Social Security	9,830.8	1.5	10,090.3	2.6	10,321.8	2.3	11,892.3	15.2	10,894.7	4.9
Public Assistance	1,082.2	-8.9	1,110.4	2.6	1,105.2	-0.5	1,089.7	-1.4	1,141.6	4.8
Social Welfare	2,056.2	2.1	1,977.8	-3.8	2,033.2	2.8	2,082.7	2.4	2,230.9	7.1
Social Insurance	5,847.5	4.1	6,137.3	5.0	6,310.2	2.8	7,852.7	24.4	6,641.2	4.7
Health Services	464.4	-4.4	497.2	7.1	512.3	3.0	507.1	-1.0	526.9	3.9
Unemployment Compensation	380.5	0.6	367.6	-3.4	361.0	-1.8	360.0	-0.3	354.1	-1.6
Education and Science	4,904.3	-0.3	4,886.6	-0.4	5,063.7	3.6	4,858.1	-4.1	4,937.1	1.6
Compulsory Education	2,415.2	2.0	2,414.9	-0.0	2,392.9	-0.9	2,378.3	-0.6	2,387.7	0.4
Transfer to School Account	1,075.1	-2.0	1,083.7	0.8	1,180.1	8.9	1,102.7	-6.6	1,140.8	3.5
Science Promotion	375.4	0.2	381.8	1.7	473.5	24.0	417.3	-11.9	448.0	7.4
School Facilities	385.5	-9.8	350.0	-9.2	354.6	1.3	286.2	-19.3	263.2	-8.1
School Aid	569.6	0.5	575.7	1.1	580.9	0.9	590.3	1.6	614.4	4.1
Student Loans	83.6	-3.0	80.5	-3.7	81.7	1.5	83.3	2.0	83.0	-0.5
National Debt Service	10,180.5	10.3	10,664.4	4.8	11,851.4	11.1	11,512.0	-2.9	11,664.9	1.3
Pensions	1,863.7	-1.2	1,850.[illegible]	-0.7	1,895.6	2.5	1,879.8	-0.8	1,855.8	-1.3
Civil Servants	124.8	-2.8	121.4	-2.7	122.2	0.7	118.1	-3.4	111.8	-5.3
Veterans	1,578.7	-1.4	1,562.6	-1.0	1,606.9	2.8	1,599.0	-0.5	1,588.5	-0.7
Administrative Costs	10.4	-1.4	10.3	-0.0	8.9	-14.3	8.4	-5.4	8.0	-4.3
War-bereaved Families	149.9	2.7	155.9	4.0	157.6	1.1	154.4	-2.0	147.4	-4.5
Local Finance	9,690.1	5.1	9,734.7	0.5	11,086.2	13.9	13,031.2	17.5	13,368.8	22.6
Local Allocation Tax	9,690.1	7.2	9,734.7	0.5	11,086.2	13.9	13,031.2	17.5	13,368.8	22.6
Defense	3,169.7	7.0	3,338.0	5.3	3,507.8	5.1	3,700.3	5.5	3,919.8	5.9
Public Works	6,922.3	0.6	6,946.3	0.3	7,428.0	6.9	6,680.4	-10.1	6,197.4	1.9
Erosion and Flood Control	1,082.8	-1.4	1,101.4	1.7	1,221.9	10.9	1,058.9	-13.3	1,080.2	2.0
Road Improvement	1,856.1	-2.3	1,826.3	-1.6	1,983.8	8.6	1,743.2	-12.1	1,781.9	2.2
Harbors and Airports	511.9	-1.5	517.3	1.1	563.7	9.0	496.8	-11.9	511.3	2.9
Housing	927.9	1.5	940.2	1.3	964.4	2.6	930.3	-3.5	764.4	1.8
Social Infrastructure	970.3	-1.0	989.0	1.9	1,106.1	11.8	942.5	-14.8	954.8	1.3
Agricultural Infrastructure	879.0	-1.5	886.9	0.9	963.7	8.7	851.7	-11.6	867.3	1.8
Forest Roads and Water	169.6	-2.1	170.4	0.5	181.2	6.3	163.0	-10.1	160.2	-1.7
Adjustment Reserves	10.7	-2.2	11.3	5.6	11.8	3.6	10.3	-11.6	10.6	1.9
Disaster Reconstruction	514.0	30.6	503.5	-2.0	431.6	-14.3	483.7	12.1	66.7	2.5
Economic Cooperation	581.3	7.5	600.5	3.3	661.3	10.1	682.2	3.2	727.8	6.7
Small Business Assistance	211.9	-8.0	225.6	6.5	263.2	16.6	195.3	-25.8	194.3	-0.5
Energy Support	626.2	2.6	570.5	-8.9	496.8	-12.9	461.6	-7.1	527.5	14.3
Food Agency Account	695.2	-14.0	613.8	-11.7	688.2	12.1	448.2	-34.9	418.2	-6.7
Miscellaneous	4,346.9	-0.5	4,104.0	-5.6	4,292.2	4.6	3,913.5	-8.8	4,058.1	3.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	946.9	**	0.0	**
Reserves	200.0	17.6	200.0	0.0	200.0	0.0	350.0	75.0	350.0	0.0
Social Capital					458.0	**	1,300.0	183.8	1,300.0	0.0
Total Revenues	53,222.9	3.3	53,824.8	1.1	58,214.2	8.2	61,851.7	6.2	60,414.2	6.6
Tax and Stamp Revenues	38,145.0	9.5	39,440.0	3.4	43,087.0	9.3	48,106.0	11.6	51,010.0	13.1
Monopoly Profits	6.6	-99.4	7.6	15.2	6.0	21.1	2,804.2	24.7	2,293.2	-17.2
Public Enterprise Receipts	15.9	3.2	16.7	5.0	17.5	4.8				
Sale of Public Properties	157.9	71.1	134.5	-14.8	180.6	34.3				
Miscellaneous	2,254.0	-1.3	2,289.7	1.6	2,044.7	-10.7				
Public Bonds	12,438.0	-3.3	11,495.0	-7.6	10,539.0	-8.3	7,967.0	-24.4	7,111.0	-19.6
Construction	n.a.	**	5,700.0	**	6,880.0	20.7	6,196.0	-9.9	5,800.0	1.9
Deficit-Financing	n.a.	**	5,795.0	**	3,659.0	-36.9	1,771.0	-51.6	1,311.0	-58.4
Carryover Surplus	205.4	-49.5	441.3	114.8	2,339.4	430.1	2,974.5	27.1	n.a.	n.a.

*Percent changes for FY 1989 are based on the initial budget for FY 1988.
**Cannot be calculated or meaningless.

Source: Ministry of Finance

Table 2: Supplementary Budget for FY 1988

(in billions of yen)

General Account Expenditures	
Public Works	Y598.0
Public Housing	179.4
Disaster Reconstruction	418.6
Transfers to Local Governments	2,125.6
FY 1987 Surplus	1,080.8
FY 1988 Natural Increase	1,044.8
Public Welfare Insurance	1,507.8
Miscellaneous Outlays	-26.3
Agricultural Import Liberalization	104.6
Trade Insurance	90.0
Wage Increase	144.4
Consumption Tax Introduction	162.5
Miscellaneous Reductions	-750.0
Other*	222.2
National Debt Redemption	946.9
Total	5,152.0
General Account Revenues	
Tax and Stamp Revenues	3,016.0
Other Revenues	35.5
Public Bonds	-874.0
Construction	506.0
Deficit-Financing	-1,380.0
Carryover Surplus from FY 1987	2,974.5
Expenditures	1,893.7
Transfers to Local Governments	1,080.8
Total	5,152.0

*Includes Y24.6 billion for United Nations peacekeeping forces and refugee assistance.

Source: Ministry of Finance

MOF planners were ruthless in other respects in FY 1988. Taking full advantage of favorable global oil prices, FY 1988 funds for energy programs were slashed 7.1 percent. In line with Japan's commitment to gradually reduce agricultural subsidy programs, expenditures for price supports were slashed by nearly 35 percent. Assuming that small firms have overcome the negative effects of the yen's appreciation or, perhaps, to encourage rationalization, MOF chopped outlays for small business assistance by more than one-quarter. Tokyo continued to be hard on itself, as well. The miscellaneous category, which covers administrative costs and wages among other things, was cut to its lowest level in nearly 10 years in FY 1988. Tokyo was generous to some programs but merciless with others.

The initial budget for FY 1989 shows that Tokyo intends to keep a tight rein. Although overall spending is set to expand at an initial 6.6 percent, the majority of discretionary budget items shows growth rates of substantially less than 5 percent. Economic cooperation (6.7 percent) and defense (5.9 percent) again are treated generously. With global oil prices recovering, energy measures will receive renewed attention. The economic impact of the FY 1989 budget will be only mildly stimulative given the weak increase in public works outlays and another sharp reduction in borrowing.

Trends in discretionary spending underscore Tokyo's concern with the outstanding debt and its commitment to stimulate the economy (Table 3). Nondiscretionary spending, which includes interest payments on the outstanding debt and transfers to local governments, continues to outpace overall budget growth. Nondiscretionary outlays accounted for 37.3 percent of total expenditures in FY 1985 compared to a projected 41.4 percent in FY 1989. To hold down borrowing, therefore, Tokyo has squeezed discretionary outlays. Once again the break between the austerity-only and the austerity/expansion policies is clear: the increase in discretionary outlays jumped from 0.2 percent in FY 1986 to 5.5 percent in FY 1987 and stayed strong at 5.8 percent in FY 1988. Partly in response to a big increase in nondiscretionary spending in FY 1989, discretionary outlays are targeted to grow initially at only 3.2 percent, a comedown from the previous two years but far better than the rates of the early 1980s.

General Account Revenues - As can be seen from the income figures, this Jekyll-and-Hyde spending routine is not due to necessity. As Japan's economy has pulled out of the recession induced by the yen's appreciation, tax revenues have boomed well beyond MOF's expectations. This is particularly clear from the large carryover surpluses in FY 1987 and FY 1988 (see Table 1). The boom in tax revenues also is apparent from the large increases in revenue sharing with local governments. After badly underestimating tax revenue growth in FY 1987 and FY 1988, MOF is taking a more optimistic view in its initial estimate for FY 1989's tax and stamp revenues and is projecting a whopping 13.1 percent increase, higher than the revised figures for the past two years.

An analysis of tax revenues reveals the soundness of the underlying economy (Table 4). In keeping with past increases, receipts from direct taxes are expected to grow steadily. It is interesting that the balance between corporate and personal income tax receipts has shifted back and forth since FY 1987. Another point that will be discussed later is the decline in receipts from taxpayers who assess their own income, including farmers, self-employed businessmen and many professional service providers (doctors, for example). With the Tokyo stock market setting new records almost daily, it is not surprising that the securities transaction tax has become an important source of revenue. Since nearly doubling in FY 1986 over the previous year, the tax revenue on stock transactions has been a windfall for the government. Finally, the introduction of the consumption tax can be seen clearly. Although the government claimed that income tax cuts would outweigh the impact of the consumption tax, it obviously is expected to generate more revenue than the indirect taxes it replaces: Y3.6 trillion ($27.8 billion at Y130=$1.00) versus about Y2 trillion ($15.4 billion).

The most stunning aspect of the general account revenue picture is the drastic reduction in issues of deficit-financing bonds (see Table 1). Since FY 1986 the amount issued each year has been cut sharply, thanks mainly to the windfall in tax revenues. Nontax revenues also have shouldered part of the burden, based on receipts from the sale of government-held shares of Nippon Telegraph and Telephone Corp. (included in the miscellaneous category). The government began reducing its monopoly ownership of NTT stock in 1986 and plans to sell half of its 156 million shares by the end of 1991. Beginning in FY 1988

Table 3: Discretionary Spending in the General Account, FY 1985-FY 1989

(in billions of yen and percent change)

	FY 1985		FY 1986		FY 1987		FY 1988		FY 1989*	
Total Expenditures	Y53,222.9	3.3%	Y53,824.8	1.1%	Y58,214.2	8.2%	Y61,851.7	6.2%	60,414.2	6.6%
Minus										
Debt Service and Transfers to Local Governments	19,870.6	8.8	20,399.1	2.7	22,937.6	12.4	24,543.2	7.0	25,033.7	11.7
Equals										
Discretionary Spending	33,352.3	0.3	33,425.7	0.2	35,276.5	5.5	37,308.5	5.8	35,380.5	3.2

*Percent changes for FY 1989 are based on the initial budget for FY 1988.

Source: Ministry of Finance

Table 4: Japan's National Tax and Stamp Receipts, FY 1987-FY 1989

(in billions of yen)

	FY 1987	FY 1988	FY 1989*
Total Tax and Stamp Revenues	Y43,087	Y48,106	Y51,010
Direct Taxes	31,703	36,284	38,422
Personal Income Tax	16,188	16,928	18,172
Withheld	11,898	12,675	14,074
Self-assessed	4,290	4,253	4,098
Corporate Income Tax	13,722	17,712	18,363
Inheritance and Gift Tax	1,793	1,644	1,907
Indirect Taxes	11,384	11,822	12,588
Liquor Tax	2,042	2,066	1,801
Tobacco Excise Tax	1,012	1,011	932
Sugar Excise Tax	32	0	0
Gasoline Tax	1,596	1,314	1,365
Liquefied Petroleum Gas Tax	16	16	17
Aviation Fuel Tax	54	58	59
Petroleum Tax	190	290	438
Consumption Tax**	0	0	3,618
Commodity Tax	1,686	1,906	0
Playing Card Tax	1	0.4	0
Bourse Tax	25	54	46
Securities Transaction Tax	1,766	1,800	1,116
Travel Tax	61	0	0
Admission Tax	4	0	0
Motor Vehicle Tonnage Tax	486	532	559
Customs Duty	599	703	759
Tonnage Duty	8	8	9
Other	0	0	0
Stamp Revenue	1,806	1,973	1,849

*Projected
**New tax

Source: Ministry of Finance

Table 5: Uses and Sources of Japan's Fiscal Investment and Loan Program Outlays, FY 1985-FY 1989

(in billions of yen and percent change)

	FY 1985		FY 1986		FY 1987		FY 1988		FY 1989	
Total Outlays	Y20,858.0	-1.2%	Y22,155.1	6.2%	Y27,081.3	22.2%	Y29,614.0	9.4%	Y32,270.5	9.0%
Housing	5,289.3	-0.0	5,856.2	10.7	6,328.2	8.1	6,921.5	9.4	7,460.6	7.8
Other Social Infrastructure	3,280.9	9.1	3,694.5	12.6	3,998.7	8.2	4,450.9	11.3	4,371.3	-1.8
Welfare	595.7	-6.6	625.9	5.1	627.7	0.3	661.8	5.4	736.0	11.2
Education	745.3	-4.1	678.2	-9.0	784.1	15.6	637.6	-18.7	520.2	-18.4
Small Business	3,764.4	-5.1	3,700.0	-1.7	3,985.6	7.7	4,030.6	1.1	4,176.4	3.6
Agriculture	890.6	-13.9	902.1	1.3	907.8	0.6	979.4	7.9	924.4	-5.6
Land Conservation and Disaster Reconstruction Work	472.8	24.7	422.7	-10.6	493.0	16.6	409.8	-16.9	357.9	-12.7
Roads	1,826.4	6.7	2,024.4	10.8	2,363.0	16.7	2,512.1	6.3	2,576.8	2.6
Transportation and Communications	1,763.4	-6.6	2,015.1	14.3	2,264.1	12.4	2,229.9	-1.5	2,361.6	5.9
Regional Development	511.2	2.2	566.1	10.7	657.7	16.2	652.2	-0.8	676.6	3.7
Industry and Technology	603.3	-2.7	635.9	5.4	630.9	-0.8	687.2	8.9	758.7	10.4
Foreign Trade and Economic Cooperation	1,114.7	-13.8	1,034.0	-7.2	690.5	-33.2	1,171.0	69.6	1,420.0	21.3
Capital Investment					3,350.0	*	4,270.0	27.5	5,930.0	38.9
Total Revenues	25,858.0	4.7	27,155.1	5.0	31,081.3	14.5	33,114.0	6.5	34,570.5	4.4
Industrial Investment Special Account	31.4	554.2	61.5	95.9	144.3	134.6	91.2	-36.8	85.2	-6.6
Trust Fund Bureau Fund	20,029.0	5.9	20,738.6	3.5	24,595.8	18.6	26,206.6	6.5	26,871.3	2.5
Postal Savings	6,400.0	-7.2	7,000.0	9.4	7,900.0	12.9	7,900.0	0.0	8,500.0	7.6
Pension Contributions	3,950.0	2.6	4,300.0	8.9	4,450.0	3.5	3,500.0	-21.3	4,310.0	23.1
Other Revenues	9,679.0	18.7	9,438.6	-2.5	12,245.8	29.7	14,806.6	20.9	14,061.3	-5.0
Postal Life Insurance Fund	2,587.6	0.0	3,145.0	21.5	3,941.2	25.3	4,409.4	11.9	5,614.0	27.3
Government-Guaranteed Bonds and Borrowings	3,210.0	0.0	3,210.0	0.0	2,400.0	-25.2	2,406.8	0.3	2,000.0	-16.9

*Cannot be calculated or meaningless.

Note: All figures are based on initial budgets.

Source: Ministry of Finance

Y1.3 trillion ($10 billion) from the sale of NTT stock flowed directly into infrastructure investment projects. The result of all this extra revenue has been to put the goal of eliminating new issues of deficit-financing bonds by FY 1990 within easy reach.

Fiscal Investment and Loan Program - Details of the FILP are presented in Table 5, showing its growing importance. For the first time the FILP for FY 1989 will be equivalent to more than 50 percent of total general account outlays for that year. Whereas public works expenditures in the general account budget have been constrained, there has been significant growth in FILP funding since FY 1986. Housing and other social infrastructure, roads, and transportation and communications are traditional outlets, but Tokyo signaled its intention to boost public works spending with the addition of a capital investment line item in FY 1987. Since its introduction, the category has grown quickly and now comprises the second-largest FILP outlay. Japan's commitment to greater foreign aid also is clear from the FY 1989 FILP plan, which lists a proposed 21.3 percent increase in this area.

Just as in the general account, Tokyo is working hard at breaking its dependency on debt to help fund the FILP. Since the financial link between the FILP and the general account budget -- the Industrial Investment Special Account -- has never been strong, the FILP budget always has tapped as its main source of revenue government trust funds and the country's giant postal savings network. This reliance has increased as the government gradually has pared back its guaranteed bonds and borrowings. While this may make sense from a fiscal planner's point of view, it has implications for the liberalization of Japan's financial markets.

Tokyo is following a clear two-track fiscal policy: pumping an increasing amount of money into some areas (often in response to international commitments) while reducing outlays in others. By pushing Japan's growing public works commitment onto the mainly self-funding FILP, MOF budget planners have been able to fulfill the seemingly conflicting goals of stimulating the economy while cutting back the budget deficit. The drying up of new bond issues, however, has some unexpected consequences.

Where's The Debt?

Data in Tables 6 and 7 highlight MOF's concern over Japan's reliance on borrowing. The chickens hatched in the turbulent 1970s during Tokyo's efforts to keep the economy growing through deficit spending are coming home to roost in the 1980s and beyond. Table 6 shows the sudden ballooning of deficit financing in the second half of the 1970s and the resultant sharp increase in debt service costs. It shows as well the efficacy of recent efforts to cut the general account budget deficit.

Table 7 illustrates how rapidly the national debt has accumulated -- from under 4 percent of the nation's total output of final goods and services in FY 1970 to over 40 percent in the second half of the 1980s. Combined with their concern about Japan's rapidly aging population, MOF planners worry that fewer working Japanese will have to bear a heavier burden in coming decades. Reducing the outstanding debt is a perfectly understandable goal.

This goal, however, conflicts with Tokyo's desire to liberalize and deregulate its financial markets. In the United States the primary and the

Table 6: Japan's Current General Account Budget Deficit, FY 1970-FY 1989

(in billions of yen and percent of total spending)

Fiscal	Initial Budget								Revised Budget	
Year	Construction Bonds		Deficit Bonds		Total Bonds		Debt Service		Total Bonds	
1970	Y430	5.4%	0	n.a.	Y430	5.4%	Y290.9	3.7%	Y347	4.2%
1971	430	4.6	0	n.a.	430	4.6	319.3	3.4	1,220	12.6
1972	1,950	17.0	0	n.a.	1,950	17.0	455.4	4.0	2,310	19.1
1973	2,340	16.4	0	n.a.	2,340	16.4	704.5	4.9	1,810	11.9
1974	2,160	12.6	0	n.a.	2,160	12.6	862.2	5.0	2,160	11.3
1975	2,000	9.4	0	n.a.	2,000	9.4	1,039.4	4.9	5,480	26.3
1976	3,525	16.0	Y3,750	19.3%	7,275	29.9	1,664.7	6.9	7,375	29.9
1977	4,430	11.9	4,050	17.8	8,480	29.7	2,348.7	8.2	9,985	34.0
1978	6,050	13.6	4,935	18.4	10,985	32.0	3,222.7	9.4	11,285	32.8
1979	7,215	12.5	8,055	27.1	15,270	39.6	4,078.4	10.6	14,050	35.4
1980	6,785	11.5	7,485	22.0	14,270	33.5	5,310.4	12.5	14,270	32.7
1981	6,785	11.8	5,485	14.4	12,270	26.2	6,654.2	14.2	12,900	27.6
1982	6,516	11.5	3,924	9.5	10,440	21.0	7,829.9	15.8	14,345	30.2
1983	6,365	9.9	6,980	16.6	13,345	26.5	8,192.5	16.3	13,486	26.1
1984	6,225	9.8	6,455	15.2	12,680	25.0	9,155.1	18.1	12,781	24.5
1985	5,950	9.4	5,730	12.8	11,680	22.2	10,224.1	19.5	12,308	22.8
1986	5,700	8.9	5,246	11.3	10,946	20.2	11,319.5	20.9	11,495	21.4
1987	5,520	10.2	4,981	9.2	10,501	19.4	11,333.5	20.9	10,539	18.1
1988	5,690	10.0	3,151	5.6	8,841	15.6	11,512.0	20.3	7,967	12.9
1989	5,780	9.6	1,331	2.2	7,111	11.8	11,664.9	19.3	n.a.	n.a.

Source: Bank of Japan and Ministry of Finance

Table 7: Japan's Cumulative General Account Budget Deficit, FY 1970-FY 1989

(in billions of yen and percent of nominal gross national product)

Fiscal Year	Construction Bonds		Deficit Bonds		Refinancing Bonds		Total Bonds	
1970	Y2,642.2	3.5%	Y168.8	0.2%	0.0	0.0	Y2,811.0	3.7%
1971	3,851.1	4.7	100.9	0.1	0.0	0.0	3,952.0	4.8
1972	5,818.5	6.0	0.0	0.0	0.0	0.0	5,818.5	6.0
1973	6,943.5	6.0	0.0	0.0	Y606.8	0.5%	7,550.3	6.5
1974	8,403.6	6.1	0.0	0.0	1,254.8	0.9	9,658.4	7.0
1975	11,178.4	7.3	2,116.9	1.4	1,677.7	1.1	14,973.0	9.8
1976	14,530.1	8.5	5,492.8	3.2	2,053.6	1.2	22,076.5	12.9
1977	19,280.8	10.1	10,253.5	5.4	2,367.9	1.2	31,902.2	16.8
1978	24,964.7	12.0	14,647.2	7.0	3,003.7	1.4	42,615.6	20.4
1979	32,181.7	14.3	21,065.7	9.3	3,003.7	1.3	56,251.1	25.0
1980	38,953.5	15.9	28,257.1	11.5	3,299.1	1.3	70,509.7	28.8
1981	45,149.7	17.4	32,916.3	12.7	4,207.3	1.6	82,273.3	31.7
1982	48,589.4	17.8	40,330.1	14.8	7,562.5	2.8	96,482.0	35.4
1983	51,366.3	18.1	47,059.9	16.6	11,268.4	4.0	109,694.6	38.6
1984	53,447.9	17.6	53,074.5	17.5	15,171.0	5.0	121,693.4	40.2
1985	52,830.3	16.4	57,306.0	17.8	24,295.0	7.6	134,431.3	41.8
1986	52,745.0	15.8	58,846.3	17.6	33,535.2	10.0	145,126.5	43.4
1987	51,923.4	14.8	56,803.0	16.2	43,082.8	12.3	151,809.2	43.2
1988*	48,928.7	13.2	54,112.4	14.6	52,089.2	14.1	155,130.3	41.9

*As of the end of February 1989. Percent of GNP based on estimated FY 1988 nominal growth of 5.4 percent.

Sources: Bank of Japan and Ministry of Finance secondary markets for government bonds are important arenas where the Federal Reserve Bank conducts monetary policy. As Japan moves away from its postwar system of regulated interest rates, the Bank of Japan -- the Fed's counterpart -- is discovering that it, too, needs a deep, dynamic government bond market to effectively conduct monetary policy. The impending end of new deficit-financing bond issues has generated trepidation among banks and securities dealers. They see the primary government bond market becoming smaller, more competitive and less profitable. If the primary market bogs down, the secondary market, which has yet to really get off the ground, also will suffer. Although new issues of construction bonds and refinancing bonds will continue (the latter, in particular, can be expected to increase), the loss of one-half of all new issues of long-term government debt already is putting a crimp on the market.

The shortage of debt may prove temporary, however, if the current surfeit of revenues dries up. Tax revenues cannot continue to outpace estimates indefinitely. The sale of NTT stock now appears less lucrative than in the first three rounds since NTT's share price has fallen from the lofty heights of 1987 despite the Tokyo Stock Exchange's upward surge. The government was forced to reduce the size of the 1988 sale because of investor resistance to the high price. As NTT's share price continues downward from its historic highs, Tokyo is worried that it will not be able to place the entire 1989 issue. If buyer resistance proves strong, MOF cannot count on the Y1.3 trillion ($10 billion) the government pocketed from the FY 1988 sale. Even if future sales are satisfactory, the revenue bonus will last only as long as the government continues to sell its stock. Although Tokyo has pledged to sell half its holdings, it must retain by law at least one-third of NTT's outstanding shares. This source of revenue will last only a few more years at best (until 1992 if Tokyo keeps to its current sale schedule). With such long-term revenues in doubt, Tokyo has been forced to turn to that most politically hated of alternatives, taxes.

Taxes: The Real Beef

The fact that tax reform proposals have contributed to the downfall of Japan's two most recent prime ministers underscores the political sensitivity of the subject. Both former Prime Minister Yasuhiro Nakasone and current Prime Minister Noboru Takeshita failed to convince the public of the need to begin restructuring Japan's tax system. Mr. Nakasone stepped down after failing to push unpopular reforms through the Diet in 1987. Mr. Takeshita staked his political life on winning passage of a very similar tax reform package. Although he eventually pushed the bills through the Diet in December 1988, he now is voluntarily resigning, his popularity eroded in part by near unanimous dislike of the 3 percent consumption tax he implemented. (Although a factor, the consumption tax played second fiddle to the damage caused by the Recruit Co., Ltd. influence-buying scandal.) Resistance to the consumption tax also is partly behind the current boycott of Diet business by the opposition parties. (The boycott, which has delayed the passage of the FY 1989 budget beyond the April 1 start of the fiscal year, also stems primarily from the opposition's attempts to hold hearings on the Recruit scandal.)

Before taking a look at the FY 1988 and FY 1989 tax reforms, one needs to know the targets of the changes:

- Direct/indirect tax balance - Among the western industrialized countries, Japan is the most dependent on personal and corporate income taxes for revenue. Compared with 60.4 percent for the United States, 55 percent for West Germany, 46.5 percent for the United Kingdom and 32.1 percent for France, Japan derived 72 percent of total tax revenues from levies on income in FY 1988. Relying heavily on income taxes has the advantage of promoting an even income distribution and, in fact, Japan's steeply progressive income tax rates have resulted in one of the narrowest income distributions among industrialized nations. Steep rates make salaried workers feel overly taxed, however. Japanese corporations also complain that they face the highest effective tax rates in the industrialized world.

The old commodity tax structure also was inappropriate for Japan's new level of affluence. Taxes on "luxury" goods, such as sporting equipment, certain imported foods and some consumer appliances, make little sense when the government is trying to boost domestic consumption. Application of the old commodity tax system also was capricious, with taxes on fur coats, golf clubs, coffee, televisions and vacuum cleaners but no taxes on kimonos, tennis racquets, tea, personal computers and rice cookers. Finally, as the number of retired Japanese increases (the share of the population over 65 is projected to rise from 10.3 percent in 1985 to 16.3 percent in 2000 and then to 23.6 percent in 2020), dependence on income taxes means that fewer workers must support a growing retired population.

A number of other arguments are related to the structure of Japan's tax system. Heavy reliance on income taxes also can lead to large fluctuations in revenue since income is related directly to the health of the economy. Although Japan's business cycle is more moderate than that of the United States, the current tax revenue boom is clear evidence of volatility. And, because Japan's tax brackets are not indexed for inflation, "bracket creep" will push taxpayers into higher and higher brackets as their income rises. Not only does this frustrate taxpayers who feel they never can get ahead, but it also promotes bigger government since revenues have a natural increase built in.

- Equity - Japan's famed "salaryman" cannot escape the tax collector's net because taxes are withheld by employers. Nonsalaried workers, including farmers, small shopkeepers, doctors and other self-employed professionals, find it easy to evade the taxman's hooks because they voluntarily report their income. Farmers enjoy further tax breaks, holdovers from the immediate postwar years. It is not surprising that the National Tax Administration reports that doctors top the list of tax evaders. The perception that tax avoidance by the self-employed is rife has generated sayings like "9-6-4," referring to the idea that salaried workers pay 90 percent of the tax they owe, the self-employed pay 60 percent of what they owe, and farmers only 40 percent. Such broad perceptions of inequity have been a constant prod for tax reform.

- Taxes on imported goods - While originally not intended as such, the structure of some taxes discriminates against imported goods. The clearest example is the alcoholic beverage tax system. Better grades of beverages (fine whiskey and wine, for example), which generally are imported, are taxed at significantly higher rates than lower grade products, which tend to be domestically produced. European countries consistently have criticized the Japanese system for obvious reasons.

FY 1988 Tax Reform - The main points of the FY 1988 tax reforms, summarized in Appendix A, include reduced personal and corporate income tax rates, the introduction of a 3 percent consumption tax, the abolition of the old commodity tax system, and reform of the liquor tax system. In terms of narrowing the income tax burden, eliminating the inconsistencies of the commodity tax structure and reducing the tax differential between imported and domestic alcoholic beverages, the reforms are a success. The changes are less successful when it comes to correcting the distribution between indirect and direct taxes, the issue of tax equity and the question of overall tax structure.

The 3 percent consumption tax has been a target of particularly intense examination in Japan and overseas. To foreign governments interested in exporting more to Japan, a tax on consumption appeared contrary to the goal of stimulating consumer spending. To Japanese businessmen the tax brings increased costs and administrative duties (despite relatively simple reporting procedures). To Japanese consumers the new tax adds to the already high cost of practically everything.

Implementation has been quite chaotic. Some retailers have absorbed the entire cost, while others have tacked on 3 percent (or more) to items that are exempt. The Japanese bureaucracy has been trying to explain the new system to domestic and foreign firms while cracking down on price gouging or attempting to jawbone prices down. Application of the tax to services and utilities is particularly messy, with variations in pricing practices appearing throughout the country.

The impact appears to be less than feared. Sales of cars in March were expected to drop in anticipation of the lower consumption tax replacing the commodity tax in April. Dealers, however, cut prices or offered rebates equivalent to the tax differential, keeping sales up. Vendors of services, in contrast, were hit by a rush of last-minute customers hoping to beat the imposition of the new tax. Supermarkets reported a 9.7 percent jump in March sales. According to a Bank of Japan survey, prices at the producer level in the first part of April were up an average 1.7 percent from the last part of March and 2.1 percent compared to the same period of April 1988. The Economic Planning Agency predicted April 22 that Tokyo consumer prices would rise 2.7 percent for the entire month. The long-term impact of the consumption tax remains uncertain, however.

But the short-term impact on popular opinion is unambiguous. Several recent polls by Japanese newspapers revealed nearly unanimous public criticism of the new tax. Besides disliking the general confusion it has caused, many feel it worsens the tax equity situation since many small businessmen are exempt (but raised prices anyway), and the majority of businesses still voluntarily report what they owe. Parents with children in school are unhappy even though the tax does not apply directly to tuition costs. School fees for libraries, lunches and maintenance will rise because of the consumption tax; parents expect this increase to be passed on to them. In the face of such discontent, the benefits of the FY 1988 reforms have receded almost completely from the popular view.

FY 1989 Reforms - The cabinet approved an outline January 27 of modest tax changes for FY 1989 (see Appendix B). Given that the first year revenue flows from the package are only Y294.6 billion ($2.3 billion) or 0.5 percent of proposed FY 1989 general account outlays, the overall economic impact should not be significant. In a few specific cases, however, the changes could have a positive effect. The reduction in local automotive taxes, for example, would come on top of the reduction in car taxes that occurred when the commodity tax was replaced by the consumption tax. Makers of large models and sports cars, including foreign manufacturers, expect to benefit the most. Taxes on fuel oil, designed to promote oil conservation, could rise by anywhere from 70 percent to 123 percent. If a proposed reduction is adopted for certain tax-free reserves for overseas market development, firms may be less enthusiastic about opening new export markets. Overall, the FY 1989 changes address minor points, shying away from sensitive subjects still on the tax reform agenda.

Outlook

There is no sign that the ruling Liberal Democratic Party will move away from the austerity/expansion fiscal policy course any time soon. If the Recruit influence-peddling scandal leads to significant changes in top party leadership, the desire to run a steady fiscal course may become even stronger. Defense, foreign aid and public works will continue to receive a steady diet of healthy spending increases for the foreseeable future, either in the general account budget or the FILP budget. The government is almost certain to fulfill its pledge to eliminate new issues of deficit bonds by FY 1990. Whether this pledge can be extended to future budgets is unclear. Tokyo currently is making the best of a good situation. Surging tax revenues, hefty proceeds from the sale of NTT shares and a solid economy make balancing the budget and simultaneously stimulating domestic demand possible.

The longer term outlook is less sanguine. The politically expensive FY 1988 tax reform package failed to address critical issues of equity and structure. It also is unclear whether popular discontent over the new 3 percent consumption tax will force the LDP to amend or even discontinue it. As Tokyo moves to deregulate financial markets, the structure of the budget itself may become an obstacle. Deregulating the postal savings system or the government Trust Fund Bureau could put the FILP budget's existence in question. Despite current easy fiscal conditions, Japan's budget policy planners have a difficult agenda to address.

For further information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

Appendix A: Summary of FY 1988 Tax Reforms

Table 1: National Personal Income Tax Rates, January 1, 1988

(in millions of yen)

1986		1987		1988	
Taxable Income	Rate	Taxable Income	Rate	Taxable Income	Rate
Y0.5 or less	10.5%				
0.5 to 1.2	12.0	Y1.5 or less	10.5%	Y2 or less	10.0%
1.2 to 2	14.0	Over 1.5	12.0		
2 to 3	17.0	2 to 3	16.0		
3 to 4	21.0				
		3 to 5	20.0	2 to 6	20.0
4 to 6	25.0				
		5 to 6	25.0	6 to 10	30.0
6 to 8	30.0	6 to 8	30.0		
8 to 10	35.0	8 to 10	30.0	10 to 20	40.0
10 to 12	40.0	10 to 12	40.0		
12 to 15	45.0	12 to 15	45.0		
15 to 20	50.0				
20 to 30	55.0	15 to 30	50.0	Over 20	50.0
30 to 50	60.0	30 to 50	55.0		
50 to 80	65.0	Over 50	60.0		
Over 80	70.0				

Table 2: Local Personal Income Tax Rates, January 1, 1988

(in millions of yen)

1986		1987		1988	
Taxable Income	Rate	Taxable Income	Rate	Taxable Income	Rate
Municipal Inhabitants Tax					
Y0.2 or less	2.5%				
0.2 to 0.45	3.0				
		Y0.6 or less	3.0%	Y1.2 or less	3.0%
0.45 to 0.7	4.0				
0.7 to 0.95	5.0				
		1.3	5.0		
0.95 to 1.2	6.0				
1.2 to 2.2	7.0				
2.2 to 3.7	8.0	3	7.0	5	8.0
3.7 to 5.7	9.0	4.5	8.0		
5.7 to 9.5	10.0	9	10.0	Over 5	11.0
9.5 to 19	11.0	20	11.0		
19 to 29	12.0	Over 20	12.0		
29 to 49	13.0				
Over 49	14.0				
Prefectural Inhabitants Tax					
Y1.5 or less	2.0%	Y1.3 or less	2.0%	Y5 or less	2.0%
Over 1.5	4.0	1.3 to 3	3.0		
		Over 3	4.0	Over 5	4.0

Table 3: Income Tax Credits, January 1, 1989

	1988	1989
1. Basic Exemption		
Spouse	Y330,000	Y350,000
Dependent	330,000	350,000
2. Additional Spousal Credit	165,000	350,000
3. Additional Exemption for Dependents, Ages 16-22	---	100,000
4. Special Exemptions		
Handicapped	250,000	270,000
Widow	250,000	270,000
Working Student	250,000	270,000

Table 4: Inheritance and Gift Taxes, January 1, 1988

(in millions of yen)

	1988	1989
1. Minimum taxable inheritance		
Basic minimum	Y20	Y40
Statutory heir (per person)	4	8
2. Maximum inheritance tax rate	75%	70%

3. Entire legal inheritance of surviving spouse is exempt.

4. Number of adopted children will be limited to one if there is a natural child or two if there are no natural children.

5. Land purchased up to three years before death will be valued at the transaction price, not the book value.

	1988	1989
6. Special rates for small real estate holdings (less than 200 square meters)		
Residential	30%	50%
Business	40	60

Table 5: Corporate Income Tax Rates

	FY 1988	FY 1989	FY 1990
Basic Rates			
Retained Profits	42.0%	40.0%	37.5%
Distributed Profits	32.0	35.0	37.5
Small Corporation Rates*			
Retained Profits	30.0	29.0	28.0
Distributed Profits	24.0	26.0	28.0
Cooperatives and Nonprofit Corporation Rates**			
Retained Profits	27.0	27.0	27.0
Distributed Profits	25.0	25.0	27.0

*Corporations with equity capital of less than Y100 million and profits of less than Y8 million.

**Also includes medical-care corporations.

Table 6: Other Corporate Tax Changes

1. A portion of dividend income will be counted in gross receipts: 0 percent in FY 1988, 10 percent in FY 1989 and 20 percent in FY 1990.

2. The ceiling on the value of assets that can be fully depreciated in one year will be raised from Y100,000 to Y200,000.

3. Foreign taxes:

   a. Half of any foreign income not subject to foreign tax will be deducted from total foreign income, but the maximum ratio of foreign to total income is 90 percent.
   b. Foreign taxes paid above the usual level will not be deductible.
   c. The carryover period for losses or gains will be reduced from five years to three years.

Table 7: Capital Gains Tax, April 1, 1989

1. Capital gains from securities transactions will be taxed in one of two ways at the taxpayer's discretion:

   a. Actual gains (gains minus losses in one calendar year) will be subject to a 20 percent national tax and a 6 percent local tax.
   b. One percent of the total transaction value will be withheld by securities brokers.

2. Restraint of insider trading:

   a. Gains from the public sale of stock within three years of its initial public offering will be subject to a 20 percent tax. This applies only to those who held the stock before the initial public sale.
   b. After the three-year period, half of any capital gain will be tax-exempt.
   c. Founders and officials of the company will be subject to an additional 1 percent tax if they profit from the public sale of their stock within one year of the initial public offering.

Table 8: Indirect Taxes, April 1, 1989

a. General Consumption Tax

1. A tax of 3 percent (6 percent for cars) for the first three fiscal years will be applied to all sales and service transactions (see exemptions below). Tax liability will be calculated by using existing bookkeeping records, not special invoices. Taxes will be due twice a year.

2. Small- and medium-sized businesses with sales of less than or equal to:
   a. Y30 million per year are exempt.
   b. Y500 million per year may use a fixed value-added rate of 10 percent for wholesalers and 20 percent for all others.

3. Exemptions: exports, land sales, securities transactions, foreign exchange deals, loan interest, parimutuel betting, postage stamps, medical expenses,

education costs, and certain government administrative fees and social welfare payments.

b. Existing Indirect Taxes

1. The following levies will be eliminated: commodity taxes, playing card tax, sugar tax, admission tax, travel tax, electricity tax, gas tax and timber delivery tax.
2. The ad valorem tobacco tax will be abolished, but the specific tax will remain.
3. Taxes relating to petroleum will remain in place and petroleum transactions also will be subject to the general consumption tax.
4. Hotel, restaurant and local entertainment taxes will be modified substantially and subject to the general consumption tax.

Table 9: Alcoholic Beverage Taxes

(in yen per kiloliter)

Product	Alcoholic Content	FY 1988	FY 1989
Sake			
Special	15%	Y570,600	Y133,700
Grade 1	15	279,500	133,700
Grade 2	15	107,900	133,700
Blended Sake	15	81,600	65,700
Shochu			
Grade A	25	78,600	119,800
Grade B	25	50,900	70,800
Mirin			
Regular	13.5	74,100	21,600
Fortified	22	63,500	34,400*
Beer	--	239,100	208,400
Wine			
Regular	--	159,800	46,300
Above grade	--	60,400	46,300
Below grade	--	49,700	46,300
Sweetened Wine	12	117,300	85,000
Whiskey			
Special	43	2,098,100	1,055,980*
Grade 1	40	1,011,400	982,300
Grade 2	37	296,200	908,620
Other Spirits	37	361,800	331,400
Liqueur			
Regular	15	367,000	106,270*
Other	12	117,300	85,000
Miscellaneous			
Distilled	--	239,100	208,400
Mirin-type	13.5	74,100	21,600
Other	12	117,300	85,000

*Base rate. Total tax will depend on actual alcohol content.

Appendix B: FY 1989 Tax Reform Proposal

Individual Taxes

1. An increase from Y720,000 to Y910,000 for the deduction for home care of ill elderly persons, effective January 1, 1989.

2. The basic deduction for single parent homes headed by females will be increased. Effective January 1, 1989 the minimum taxable income rises from Y270,000 to Y350,000 for national taxes. Effective April 1, 1990 the minimum income for the single mother's inhabitant tax rises from Y260,000 to Y300,000.

3. The allowance for commuter expenses is increased from Y26,000 a month to Y50,000 a month, effective January 1, 1989.

4. The minimum income for inhabitants taxes will be reduced, effective April 1, 1989. The per capita levy minimum will rise from Y2,007,000 to Y2,064,000 and the income levy will rise from Y2,135,000 to Y2,192,000.

Corporate Taxes

1. The income tax rate for a production cooperative's income over Y1 billion will be raised from 8 percent to 9 percent, effective April 1, 1989 or the start of the company fiscal year.

2. All self-governing corporations must submit tax liability estimates after April 1, 1989 at the end of their fiscal year.

Land Taxes

1. The special exemption for the transfer of land to public use will be increased from Y30 million to Y50 million, effective January 1, 1989.

2. Land ownership registration fees will be reduced, effective April 1, 1989.

Local Taxes

Levies on certain vehicles will be reduced as follows:

Local Tax on Large Cars

(engine displacement in cubic centimeters; tax in thousands of yen)

a. Gasoline-powered vehicles

Engine Displacement	Personal Use		Commercial Use	
	Current	Proposed	Current	Proposed
2,000-2,500	Y81.5	Y45.0	Y25.0	Y13.8
2,500-3,000	81.5	51.0	25.0	15.7
3,000-3,500	88.5	58.0	27.5	17.9
3,500-4,000	88.5	66.5	27.5	20.5
4,000-4,500	88.5	76.5	27.5	23.6
4,500-6,000	88.5	88.0	27.5	27.2
Above 6,000	148.5	111.0	54.5	40.7

b. Diesel-powered vehicles

Engine Displacement	Personal Use FY 1989	Personal Use FY 1990	Personal Use FY 1991	Personal Use FY 1992
2,000-2,500	39.5	41.3	43.1	45.0
2,500-3,000	39.5	43.3	47.1	51.0
3,000-3,500	39.5	45.6	51.7	58.0
3,500-4,000	39.5	48.5	57.5	66.5
4,000-4,500	39.5	51.8	64.1	76.5
4,500-6,000	39.5	55.6	71.7	88.0
Above 6,000	39.5	63.3	87.1	111.0

Engine Displacement	Commercial Use FY 1989	Commercial Use FY 1990	Commercial Use FY 1991	Commercial Use FY 1992
2,000-2,500	9.5	10.9	12.3	13.8
2,500-3,000	9.5	11.5	13.5	15.7
3,000-3,500	9.5	12.3	15.1	17.9
3,500-4,000	9.5	13.1	16.7	20.5
4,000-4,500	9.5	14.2	18.9	23.6
4,500-6,000	9.5	15.4	21.3	27.2
Above 6,000	9.5	19.9	30.3	40.7

Miscellaneous

1. Effective January 1, 1989 duties on crude oil will be reduced from Y530 per kiloliter to Y350 per kiloliter.

2. Effective January 1, 1989 duties on fuel oil and refined petroleum products will be raised as follows (in yen per kiloliter):

Product	FY 1988	FY 1989
Fuel oil A (primary)	Y1,640	Y2,790
Fuel oil A (secondary)	3,930	3,780
Fuel oil B	1,260	2,600
Fuel oil C	1,140	2,540
Naphtha	46	32
Gasoline	1,720	1,480
Kerosene	808	630
Diesel oil	1,512	1,330

3. The collection of the delivery tax on light fuel oil will be strengthened, effective October 1989.

4. The frequency of the consumption tax payment will be reduced, effective April 1, 1989. Individual proprietorships will pay the tax every three months instead of every two months as originally planned. Corporations will pay the tax every nine months rather than every six to eight months.

5. Trading of financial futures and options will be taxed. The rate and the terms are to be decided by FY 1990.

6. To promote the new consumption tax, small businesses and wholesalers can deduct the cost of installing appropriate electronic computers and cash registers between April 1, 1989 and September 1, 1990.

Estimated Revenue Effects of Proposed FY 1989 Tax Reforms

(in billions of yen)

	First Year	Out Year
National Taxes	Y73.0	Y92.0
Other National Taxes		
Increased registration and license taxes	191.0	191.0
Local Automobile Taxes	23.5	20.3
Other Local Taxes	7.1	0.0
Total	294.6	326.7

Source for all tables: Ministry of Finance

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Yen In Slow Descent

Day by day the change is barely perceptible, but after six months the incremental movement is starting to add up. The yen is headed down. In early May it hit Y134.97 to the dollar, the least favorable rate since last September and within a couple yen of its nadir over the past 12 months. During the same period the yen has been as strong as Y121=$1.00, but on a month-to-month basis the Japanese currency has lost ground for six straight months.

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1987. The hoped-for effect would be to reverse the recent undesirable drift of both the exchange rate and the current account. Such actions also would send a direct signal about BOJ's intentions to rein in inflation in Japan, an obvious concern based not only on the recent inflation numbers but indications that Japan's labor market continues to tighten.

Why has the central bank not acted? Japanese officials in the past have pointed out that the world economy benefits from someone pushing on the throttle when everyone else seems to be slamming on the brakes. If low interest rates in Japan keep the Japanese economy growing, the theory goes, Japan will import more, thereby offsetting some of the pain caused by tight monetary policies elsewhere. This argument may have become less compelling, however, as increased imports have been unable to reliably reduce Japan's current account imbalance. The tighter monetary policy implied by a discount rate hike would lead to an appreciation of the yen and squeeze the export side of that balance, which has been so troublesome, as well as increase imports.

Of course, tight monetary policies are unpopular with politicians. Some analysts have suggested that the extraordinary political logjam in Japan has led to unusual hesitation on raising the discount rate. As the political fog seemed to lift slightly in late April after Prime Minister Noboru Takeshita's resignation announcement, the yen appeared to rally slightly, only to fall back. Should the Bank of Japan raise its discount rate in the current political turbulence, currency markets probably would treat the yen kindly.

Douglas Ostrom

Japan's Balance Of Payments Surplus Shows Big Drop

Just when experts thought it was safe to conclude that Japan's balance of payments surplus was increasing again, the inevitable happened. In the first quarter of 1989 the current account surplus was 14.4 percent smaller than a year earlier (see Table 1). The numbers are the latest manifestation of the turmoil in the Japanese economy during the first three months of this year, when a widely fluctuating month-to-month pattern generated unpredictable results for the whole quarter. The current account surplus plummeted more than 50 percent compared to a year earlier in January but jumped nearly 17 percent in February before dropping 24 percent in March. The Showa emperor's death in January and his funeral in February coupled with skewed sales patterns in anticipation of the April 1 implementation of the consumption tax played havoc with the figures, just as they had with statistics released earlier on customs-clearance trade (see JEI Report No. 17B, April 28, 1989) and industrial production (JEI Report No. 18B, May 5, 1989).

Echoing patterns in some other recent quarters, the trade balance and the current account moved in opposite directions in the January-March 1989 period, primarily because of surging travel abroad. The jump in foreign travel largely was responsible for the fact that Japan's deficit in services more than doubled compared to a year earlier even though investment income from abroad, which reduces the deficit in services, also was up sharply.

The latest figures rounded out Japan's balance of payments data for the fiscal year that ended March 31. For FY 1988 the trade surplus grew 1.3 percent

Table 1: Japan's Balance of Payments

(in millions of dollars)

	Trade Balance	Exports (f.o.b.)	Imports (f.o.b.)	Services (net)	Current Account Balance	Long-Term Capital (net)
1984	$44,257	$168,290	$124,033	$-7,747	$35,003	$-49,651
1985	55,986	174,015	118,029	-5,165	49,169	-64,542
1986	92,827	205,591	112,764	-4,932	85,845	-131,461
1987	96,386	224,605	128,219	-5,702	87,015	-136,532
1988 (p)	94,789	259,555	164,766	-11,167	79,488	-130,326
1987: I	23,373	50,515	27,142	-1,348	20,962	-32,209
II	25,038	55,823	30,785	-1,601	22,762	-44,365
III	23,585	56,600	33,015	-1,757	21,189	-22,023
IV	24,390	61,667	37,277	-996	22,102	-37,935
1988: I	21,021	59,345	38,324	-1,337	18,421	-15,142
II	22,448	63,559	41,111	-2,882	18,567	-36,556
III	23,765	65,989	42,224	-3,623	19,052	-42,214
IV (p)	27,555	70,662	43,107	-3,325	23,448	-36,414
1989: I (p)	21,280	66,680	45,400	-3,863	15,761	-5,487

Table 2: Japan's Net Purchases of Foreign Securities

(in millions of dollars)

	Bonds			Stocks		
	Purchases	Sales	Net	Purchases	Sales	Net
1984	$56,348	$29,575	$26,773	$1,570	$1,519	$51
1985	291,338	237,859	53,479	5,484	4,489	995
1986	1,346,989	1,253,965	93,024	20,917	13,869	7,048
1987	1,273,829	1,200,944	72,885	70,936	54,062	16,874
1988 (p)	1,364,061	1,278,249	85,812	76,560	73,567	2,993
1987: I	377,850	354,648	23,202	13,925	9,386	4,539
II	341,880	316,585	25,295	15,277	9,797	5,480
III	325,517	308,421	17,096	21,882	18,370	3,512
IV	228,582	221,290	7,292	19,852	16,509	3,343
1988: I	332,047	318,877	13,170	18,901	19,467	-566
II	401,293	374,371	26,922	20,518	20,643	-125
III	333,473	307,635	25,838	25,166	23,425	1,741
IV (p)	297,248	277,366	19,882	11,975	10,032	1,943
1989: I (p)	341,774	327,771	14,003	17,724	17,828	-104

Source for Tables 1-2: Bank of Japan

from FY 1987's level to $95.3 billion, but the current account surplus declined 8.9 percent to $77 billion. The trade surplus was $2 billion higher and the current account imbalance about $1 billion lower than Tokyo had estimated in the economic outlook issued in January, confounding critics who thought that the government had been optimistic about both figures. For FY 1989 the government expects the trade surplus to decline to $88 billion and the current account surplus to fall to $71.1 billion.

The effects of the agitation in the Japanese economy extended to the international capital statistics, the mirror image of the current account figures. Japan's net outflow of long-term capital declined sharply in the first quarter of 1989 compared to a year earlier, but the figure easily can be misinterpreted. It does not, for example, suggest that Japanese investors are losing interest in exporting capital to overseas markets, including the United States, a development that would be unsettling to many analysts of the U.S. economy. The numbers in Table 1 are net and include a variety of international long-term securities transactions, including participation in Japanese capital markets by foreign investors.

Table 2 gives a detailed breakdown of Japanese investments in foreign stocks and bonds. It shows that, while investors apparently withdrew modestly from overseas equity markets in the January-March 1989 period, they continued to add to their far larger offshore presence in bonds at almost the same rate as in recent quarters.

While Japanese investors more or less stayed on course in the most recent quarter, the same could not be said for foreign investors in Japan's markets. They poured $7.7 billion into equities, an action that was responsible for cutting Japan's net long-term capital outflow by more than half.

The latest figures suggest that, to the extent U.S. investors go on expanding their exposure in Japan, the continued flow of long-term capital in the opposite direction is even more critical. So far that flow is continuing. In future months, with the figures less affected by the extraordinary events that occurred in the first three months of this year, nervous analysts around the world will get better evidence about how worried they should be.

Douglas Ostrom

MITI To Revise Energy Demand Outlook

Confronted by a sudden surge in domestic energy demand, the Ministry of International Trade and Industry will revise its long-term energy outlook by the end of this year. The strong growth of energy use in 1988 surprised MITI officials and has led to renewed concern about Japan's energy supplies.

One mission of MITI's Agency of Natural Resources and Energy has been to project total Japanese energy demand, a task that became particularly important in the wake of the two oil price shocks of the 1970s. The most recent ANRE long-term outlooks date from November 16, 1983 and October 14, 1987 (see JEI Report No. 11A, March 18, 1988). The 1987 revision was undertaken for several reasons. The government projected that overall economic growth would slow as Japan entered the postindustrial phase of development; the shift away from export-dependent growth to an economy driven by domestic demand would change energy consumption patterns; and the sharp appreciation of the yen would cut the cost of imported energy. In line with these changes, the 1987 outlook showed much slower overall energy consumption growth and a persistently large role for fossil fuels.

The rapid turnaround of Japanese industry in the face of the strong yen debunked MITI's 1987 predictions. Not only has the overall economic expansion picked up speed, but it has done so more strongly and more quickly than expected. Mirroring this jump in economic activity, energy consumption soared. From 0.4 percent growth in FY 1986, overall energy use jumped 4.8 percent in FY 1987 and is estimated to have risen more than 5 percent in FY 1988. According to ANRE, three factors led to the surge: sharply higher production by steel, petrochemical and other energy-intensive industries; greater numbers of large household appliances and cars, currently favored by consumers; and decreased interest in energy conservation by businesses and households because of lower prices.

Alongside greater demand, the recent rise in world crude oil prices has set off alarm bells at ANRE. The successful adjustment of Japanese firms to the stronger yen is due partly to the decline in the cost of energy inputs. MITI already has altered its medium-term predictions as shown by the five-year outlook for FY 1989 and beyond (see Table). Since the 1987 long-term outlook projected annual average energy consumption growth between FY 1986 and FY 2000 at just 1.3 percent, MITI felt forced to respond to the less favorable trends.

Jon Choy

Five-Year Outlook for Japanese Demand for Petroleum Products

(in thousands of kiloliters and percent)

Product	FY 1988 (estimated)	FY 1989 (projected)	FY 1989 Change	FY 1993 (projected)	1988-94 Average Annual Change
Gasoline	39,622	40,778	2.9%	44,284	2.2%
Naphtha	30,288	31,644	4.5	34,026	2.4
Jet Fuel	3,349	3,469	3.6	3,879	3.0
Kerosene	27,606	27,925	1.2	29,571	1.7
Light Fuel Oil	31,983	34,023	6.4	38,777	3.9
Fuel Oil A	25,138	26,265	4.5	28,821	2.8
Fuel Oil B	1,357	1,091	-19.6	557	-16.3
Fuel Oil C	43,810	46,389	5.9	47,502	1.6
Electric Power	20,919	23,231	11.1	24,018	2.8
Other	22,891	23,158	1.2	23,484	0.5
Liquefied Petroleum Gas*	17,117	17,549	2.5	18,948	2.1
Total	202,753	211,584	4.4	227,417	2.3

*in thousands of metric tons

Source: Ministry of International Trade and Industry

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JAPAN'S COMPETITION POLICIES

Summary

Antimonopoly laws are sometimes called economic constitutions because of their potential to fundamentally order economic activity. Japan's law bears American fingerprints, having been enacted in 1947 during the U.S. occupation of Japan. Forty years later, as competitive conditions in Japan assume more urgency in its relationship with the United States, the role of Japan's competition-enhancing policies -- and policies that deliberately limit competition -- is more important than ever. The new emphasis on the widely acknowledged inefficiencies and price discrepancies in the distribution system and elsewhere in Japan perhaps should give the doctrine increased relevance. Yet enforcement of the Antimonopoly Law shows little sign of becoming more vigorous. However, the Japanese legislation, at a minimum, has not prevented, and even may have helped foster, the vigorous competition in many parts of the economy that has been a key to Japan's prosperity.

Why Antitrust?

Economic policymakers at any given time are involved constantly in two operations: doing what they can to make the total output of the economy as large as possible -- baking the largest economic pie -- and slicing the pie in a way that creates the greatest public good. Many, if not all, initiatives have both effects. For example, a policy of increased public spending to combat unemployment may succeed both in reducing unemployment, which in turn increases the size of the economy (the pie), and in redistributing income (the slices). The formerly unemployed get a larger fraction and those on fixed incomes may get a smaller piece if inflation resulting from the expansionary policy erodes real income.

More explicitly than many other policies, an antimonopoly (antitrust) focus contains both objectives. Briefly stated, antitrust laws attempt to limit economic power in the hands of those who are judged to have the potential to exercise monopoly power. To the extent they are successful:

- They reduce the prices that monopoly-like firms are able to charge. In the absence of a law, such firms could charge substantially in excess of what it costs them to produce a good or service. The relatively high price will work to limit sales. Consumers would prefer a larger output at a lower price, but the monopoly-like firm would not offer that choice voluntarily. An antimonopoly law compels firms to offer consumers that option. Even though the firm would lose profits, its loss is more than offset by the consumers' gains and ripple effects elsewhere in the economy. The pie gets larger.

- They redistribute the economic pie. The monopoly-like firm loses and its customers gain, with smaller gains and losses to other firms and consumers. Sometimes, however, large firms may wield economic power and hold disproportionate wealth without necessarily charging monopoly-like prices. A large firm with a tiny fraction of sales in a wide variety of industries is an example. Even in the absence of high prices and reduced quantities, antitrust laws sometimes have been invoked to reduce concentrations of economic power and wealth. Their use for this purpose is more controversial among economists than the application of such laws to reduce monopoly-like high prices.

These two goals -- reallocation of resources and redistribution of wealth or income -- are fundamental but may be masked by other provisions of antitrust laws. For example, the laws may attempt to help consumers to evaluate the real price of a good by compelling the seller to be truthful about the price or the characteristics of the product. Many such antitrust provisions fall under the rubric of "fair trade practices" and usually involve protection against perceived inequality of economic power or information.

Lack of competition among firms, then, is a powerful factor influencing the need for antitrust laws. However, lack of competition is neither necessary nor sufficient. If other objectives are important -- such as reducing inequalities of wealth, income or economic power -- then it may not be a necessary condition. A law that is badly administered, for example, going after competitive firms and ignoring those that charge excessively high prices, may do more harm than good, even in the presence of anticompetitive conditions.

Competitiveness and Concentration in Japan

Despite these qualifiers, competition or the lack thereof is clearly central to a discussion of the need for antitrust laws. The extent of competition, however, varies considerably by industry in Japan, as does the appropriate way of measuring it.

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In a few fields determining the extent of competition in Japan is easy: there isn't any. For example, a single firm -- Nippon Telegraph and Telephone Corp. -- runs local telephone service in any given locality and one governmental organization provides most postal services nationwide, in both instances paralleling practice in the United States. In other cases assessing the extent of competition is almost as simple. Many companies or individuals may coexist in an industry without really competing if the firms have virtually all the dimensions of competition set for them by a government organization. Japanese insurance companies are examples.

Most other cases, however, are far more difficult. In many manufacturing and nonmanufacturing industries government interference is minimal. However, these same industries are dominated by relatively few firms that are aware they could increase profits if they raised prices and acted like a single-firm monopoly. Of course, recognizing this fact and attaining the desired state of affairs are two different things. One impediment, for example, is that jointly fixing prices often is illegal under antitrust laws, a subject addressed below.

But even in the absence of such laws, firms have incentives to break any agreement reached. For example, if a hypothetical group of firms agreed by consensus that a price of $50 would maximize profits, one firm may find it could increase its sales and its own profits -- albeit reducing the group's total profits -- by charging $49. Once group discipline is broken, the price could spiral downward toward the level that would have prevailed in the absence of an agreement.

Just as families with only two children may face problems of sibling rivalry, an industry with two firms may be characterized by fierce competition. Eastman Kodak Co. and Fuji Photo Film Co., Ltd. dominate the American and the Japanese photographic film markets, yet compete vigorously at least in the introduction of new products. But generally the problem of discipline within the group multiplies at least in proportion to the number of participants, just as it does in a family with children.

In some cases many firms may compete in the national market, although particular companies may dominate in specific geographic regions. For example, if a small town has only one department store, but another town a few miles away has a branch of a different chain, deciding whether or not the department stores effectively are monopolies is not clear-cut since customers have the choice of traveling only a few miles to find a competitor. As this example also illustrates, defining the industry is not always obvious either. Customers have many choices besides department stores at which to buy men's clothing, for instance.

Keeping these qualifiers in mind, many -- but not all -- experts agree that the probable extent of competition can be determined approximately by looking at the number of firms producing a particular product; situations where a small number of firms predominate are judged probably less competitive. (Those who reject this notion tend to believe that competition is fierce unless restricted by government interference.) Where regulation or market definition are not major factors, the most common measurement of noncompetitiveness among firms is called the production concentration ratio, derived by dividing the production of the largest firms in the industry by total industry output. The concentration ratio for ordinary mail in Japan is 100 percent but is close to zero for rice farming, with its hundreds of thousands of farmers. Most industries are obviously far from either extreme (see Table 1). A large number of participants, however, does not guarantee a low concentration ratio. Japan's Fair Trade Commission estimated in 1984 that the percentage of output accounted for by the three largest firms in Japan's steel industry was 63.4 percent that year, although the number of firms in the industry numbers close to 2,000.

Table 1: Production Concentration Ratios in Japanese Manufacturing, 1984

(percent of output accounted for by three largest firms)

	Number of Products	Simple Average	Weighted Average
Food	43	60.4%	55.3%
Textiles	17	34.4	25.5
Wood and Wood Products	3	19.8	14.4
Furniture and Furnishings	3	42.5	41.4
Pulp and Paper	15	45.5	40.5
Publishing and Printing	3	50.2	52.4
Chemicals	62	58.1	42.5
Petroleum and Coal Products	12	41.5	35.2
Rubber Products	12	59.1	72.5
Leather Products	2	24.1	24.8
Nonmetallic Mineral Products	20	66.1	57.3
Steel	35	67.2	63.4
Nonferrous Metals	15	61.7	46.3
Fabricated Metal Products	16	54.2	43.4
Nonelectric Machinery	65	56.0	53.0
Electric Machinery	66	63.3	56.8
Transportation Equipment	13	69.8	62.9
Precision Instruments	8	77.8	70.2
Other Manufacturing	16	56.2	37.7
Average	420	58.1	51.5

Source: Fair Trade Commission

The figures in the table demonstrate another problem common in concentration measures: aggregating across a number of industries can mask much higher levels of concentration in particular important sectors. In a number of these, the overwhelming proportion of output may be accounted for by more than three companies but still a small number of firms. The automotive industry, part of the transportation equipment category in the table, illustrates these problems. Final assembly of cars is concentrated in nine companies, with Toyota Motor Corp. and Nissan Motor Co., Ltd. dominating the industry, especially in the domestic market.

Another factor in reading concentration ratios is that the figures in the table measure only production in Japan. Exporting firms will have more competition than the concentration ratios indicate to the extent that they face foreign rivals in overseas markets. These measures also will understate competition to the extent that companies supplying the domestic market have to compete with imports.

To get around these problems, Japan's Fair Trade Commission publishes a second set of concentration measures. The shipments concentration ratio uses as the numerator domestically bound shipments of the firm or firms in question and as a denominator total domestic shipments of Japanese manufacturers plus imports. As such, it is a better indicator of competition in the Japanese market, although this measure is available for far fewer products and for fewer years than the production concentration ratio. As foreign trade has increased in importance for the Japanese economy, the two measures increasingly have diverged, as Table 2 shows. The shipments measure, especially, suggests that competition well may be increasing in Japan.

Table 2: Trends in Concentration, 1975-84

(product-weighted three-firm concentration ratio for 127 products)

	Production	Shipments	Import Ratio
1975	73.9%	71.6%	3.8%
1976	72.9	70.9	4.3
1977	73.3	71.0	4.2
1978	73.4	71.0	4.5
1979	73.0	69.9	4.5
1980	72.4	69.4	4.9
1981	72.4	69.8	4.7
1982	72.4	69.2	5.0
1983	71.7	68.6	5.3
1984	71.5	68.4	6.1

Source: Fair Trade Commission

Other measures, however, show a less clear-cut result. The 10-firm product-weighted production concentration ratio, which allows for the possibility that a relatively large number of companies may be able to act monopolistically, shows a steady post-1973 increase that accelerated in the years immediately prior to 1984.

Finally, all of these measures assign disproportionate weight to the manufacturing sector. Some important nonmanufacturing industries, such as rail and air transportation and telephone service, are much less competitive than all but the most concentrated manufacturing industries, while others, such as retailing, may be more competitive. With services accounting for an increasing proportion of the economy, the government's minimal coverage of it in the calculation of concentration is becoming a more serious problem. Since transportation, wholesaling, retailing and similar services perform the function of delivering manufactured products to consumers, even the existence of relatively competitive manufacturing firms may not be enough to ensure competitive pricing at the retail level.

Finally, even if service sectors such as distribution are competitive as indicated by the presence of large numbers of firms, they may still charge high prices and provide poor service. The inefficiencies in Japan's distribution system arising from entrenched practices and government rules are well-documented (see JEI Report No. 11A, March 17, 1989).

A recent Bank of Japan report hinted at the magnitude of the effect of regulation on prices. Comparing the response to the yen's appreciation of regulated products with those judged to be relatively free of regulation, BOJ found that from the beginning of 1985, before the yen began appreciating, to the end of 1988, when it had stabilized at a much higher level, the domestic wholesale price of regulated goods was virtually unchanged. By contrast, the price of unregulated goods in the domestic market dropped about 15 percent.[1] Overall domestic wholesale prices declined about 9 percent. Even making the heroic assumption that the regulated goods were competitively priced at the beginning of 1985, this analysis suggests that by 1988 they probably were noncompetitively priced.

Antitrust in Japan

As noted earlier, a look at concentration ratios and other measures of competitive potential is incomplete without addressing an important mediating factor: laws and regulations that influence competition directly. While some governmental measures, in effect, may fix prices at high levels, in principle the vigorous enforcement of antitrust laws has the opposite result, affecting the conditions in the previous section in at least three ways.

- The level of concentration itself may reflect the government's previous antitrust activity. Actions to break up concentrated market power are one of the tools of antitrust authorities. In fact, the term antitrust originated in actions to break up monopoly positions in various industries held by trusts (a sort of holding company) in 19th century and early 20th century America.

- Good antitrust enforcement can overcome bad structure. Even if concentrations of market power are allowed to continue, vigorous action against price-fixing can prevent a lot of economic damage.

- Japan's chief enforcer of the Antimonopoly Law, the Fair Trade Commission, can be a force inside government encouraging competition even when it would result in a loss of revenues, influence over an industry or be in conflict with other goals.

On all these counts, antitrust in Japan has been condemned widely as ineffective at best and counterproductive at worst. Perhaps that judgment deserves some perspective.

Antitrust came late to Japan and was an American import. The original Antimonopoly Law was passed under pressure from U.S. occupation authorities in 1947 and incorporated much of then-current American thinking about the proper

[1] Bank of Japan, "Recent Price Developments in Japan," Special Paper No. 174, March 1989, p. 54.

role of antitrust laws. Article 1 expressed the overall objectives of the law:

> This Law, by prohibiting private monopolization, unreasonable restraints of trade and unfair methods of competition, by preventing excessive concentration of power over enterprises and by excluding undue restriction of production, sale, price, technology, etc. through combinations and agreements, etc. and all other unreasonable restraints of business activities, aims to promote free and fair competition, to stimulate the initiative of entrepreneurs, to encourage business activities of enterprises, to heighten the levels of employment and national income and, thereby, to promote the democratic and wholesome development of the national economy as well as to assure the interest of the general consumer.[2]

The Antimonopoly Law and companion legislation of the time were at least partly a consequence of prewar and wartime Japan's concentration of economic power. The most famous groups wielding such power were the zaibatsu, which were believed to have played a major role in World War II. The American occupation authorities were eager to curb the power of the zaibatsu and prevent their reappearance. In the laws they promoted and the actions they took, the occupation officials aimed for nothing less than a total restructuring of Japanese industry. As such, the words of the Antimonopoly Law probably were more revolutionary than the comparable words in the American equivalent, the Sherman Antitrust Act, half a century earlier. In fact, one of the best-known experts on industrial structure in Japan, Masu Uekusa of the University of Tokyo, has said, "The deconcentration measures imposed on Japan during the occupation period were probably the greatest use of government power in modern times to reform industrial organization."[3]

The ink, however, was hardly dry on the antimonopoly measure before revisions began. Both the first major change, in 1949, and the second, in 1953, weakened the law but left intact one important element, the prohibition on holding companies. Holding companies arguably had been the linchpin of the prewar zaibatsu. In 1977, moreover, in the aftermath of the first oil crisis, the law was strengthened significantly.[4]

Most serious American students of economic concentration in Japan believe that the early postwar period at least was characterized by much more

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[2] Quoted in Eleanor M. Hadley, Antitrust in Japan (Princeton, New Jersey: Princeton University Press, 1970), p. 121.

[3] Masu Uekusa, "Effects of Deconcentration Measures in Japan," Antitrust Bulletin, Fall 1977, p. 687.

[4] For details of the 1949 and 1953 revisions, see Hadley, op. cit., pp. 197-200. For the 1977 revisions, see "A Decade of the Antimonopoly Act as Amended," FTC/Japan Views, No. 1, January 1988, pp. 6-16. For a brief description of both periods, see Harry First, "Japan's Antitrust Policy: Impact on Import Competition," in Thomas A. Pugel (ed.), Fragile Interdependence: Economic Issues in U.S.-Japanese Trade and Investment (Lexington, Massachusetts: Lexington Books, 1986), pp. 63-67.

Table 3: Violations of Antimonopoly Law Found by Fair Trade Commission, FY 1975-FY 1987

Fiscal Year	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Price-Fixing Agreements	18	21	4	2	12	5	8	10	5	6	3	4	4
Of which, Nonmanufacturing	n.a.	n.a.	n.a.	0	10	1	3	7	1	4	2	2	4
Other Collusive Agreements	6	0	2	0	3	2	0	2	0	0	0	0	0
Unfair Trade Practices	6	10	4	4	4	4	4	6	4	0	7	0	1
Resale Price Maintenance	2	2	0	3	0	0	1	4	3	0	7	0	1
Other Restrictions	1	4	1	1	0	1	1	0	1	0	0	0	0
Refusal to Deal	1	0	2	0	0	3	1	0	0	0	0	0	0
Other	2	4	1	0	4	0	1	2	0	0	0	0	0
Other	0	0	0	0	0	5	1	2	1	1	0	0	1
Total	30	31	10	6	16	14	11	19	10	7	10	4	6

Source: Fair Trade Commission

vigorous competition and decentralization of economic power than the era that preceded it. Furthermore, up to the early 1960s at least, the process was ongoing, with market concentration generally decreasing.[5] While vigorous action against Japanese industrial concentration may have played a major role during the occupation, the Antimonopoly Law assured that the momentum would continue.

Trends in Antitrust Enforcement

The Antimonopoly Law gives Japan's Fair Trade Commission authority to take actions against business practices that the FTC deems to be monopolistic. Table 3 shows the pattern of violations found by the FTC. The mid-1970s were characterized by more violations than either before or after. The number of cases in recent years, however, has fallen to a level far below the average of 34 cases per year between FY 1947 and FY 1972. In FY 1986 and FY 1987 no price-fixing violations by wholesalers were found despite the appreciation of the yen and the likelihood that at least some firms made extraordinary efforts to maintain prices notwithstanding lower yen-denominated costs for their imported products.

System of surcharges - One of the changes introduced by the 1977 revisions to the Antimonopoly Law was a system of surcharges assesssed against violators. The surcharges are based on sales volume during the period in which the violation occurred, with a higher percentage levied in manufacturing than in services. Table 4 shows how these surcharges have varied since their introduction. By the early 1980s the surcharges amounted to billions of yen (and millions of dollars) per year. In fact, in some years the surcharges exceeded the entire FTC budget. For example, the Y3.8 billion ($29.2 million at Y130=$1.00) in surcharges in FY 1981 exceeded the FTC budget of Y2.5 billion ($19.2 million).

Table 4: Surcharges for Illegal Cartels, FY 1981-FY 1987

Fiscal Year	Number of Cases	Number of Firms and Individuals	Amount (millions of yen)
1981	6	149	Y3,759.5
1982	8	170	737.4
1983	10	92	1,466.0
1984	2	5	353.1
1985	4	32	153.7
1986	4	32	275.5
1987	6	54	147.6
Total FY 1977-FY 1987	58	877	9,797.9

Source: Fair Trade Commission

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[5] For a summary of these studies, see Richard E. Caves and Masu Uekusa Industrial Organization in Japan (Washington, D.C.: The Brookings Institution, 1976), pp. 26-27.

In recent years the surcharges, like the violations found in Table 3, have diminished dramatically. The FTC argues that the two phenomena are related, saying, "This can be attributed to the restraining effect of the surcharge system, which takes economic sanctions against cartel participants that gain financial benefits from illegal activities. This decline has also resulted from the widespread awareness of the Antimonopoly Act as well as the FTC's publication of various guidelines."[6]

Others believe that the FTC basically caved in to political pressure and eased up on price-fixers and other violators of the Antimonopoly Law. The appreciation of the yen that began in 1985 undoubtedly made some anticompetitive actions more difficult since import competition was more likely. It also may have created more of an imperative for some firms to do what they could to maintain prices and profits even at the risk of running afoul of the Antimonopoly Law.

The sanctions themselves are a drop in the bucket in terms of overall economic activity in Japan. The total amount levied over 10 years is far less than the annual profit of a single large Japanese company, and thus suggests that the deterrent effect, if any, works mainly through the embarrassment of being publicly identified as a price-gouger.

Private action in antimonopoly cases - Private antitrust suits are permitted in Japan but, unlike the American situation, are rare and the settlements very modest. When parties do feel they have been overcharged or otherwise subjected to unfair trade practices, they can attempt to recover damages from the firm or firms in question. The most publicized recent attempt in Japan has involved alleged overcharging for petroleum products in connection with the first oil crisis in 1973-74. In two cases consumer groups eventually settled for relatively small sums of Y128,000 ($985) and Y75,000 ($577) after the cases reached the Tokyo High Court. In another the consumers rejected the proposed settlement of Y235,000 ($1,808) and appealed to the Supreme Court, where they lost. A fourth case, appealed from the Akita High Court, which overturned a lower court decision against the consumers, now is pending before the Supreme Court.

Legal cartels - One of the startling aspects of the Japanese antitrust environment for Americans is the pervasiveness of legal cartels authorized by various statutes and administrative actions. Table 5 shows the major types of "exemption cartels" and how their numbers have varied over the years. The overwhelming majority have been allowed under laws permitting some small and medium-sized enterprises to set up cartels in local markets. As such, they are far less damaging to overall allocative efficiency than the better-known cartels that sometimes have been allowed in major industries, such as shipbuilding and petrochemicals.

The cartels are established for various purposes, a common one being to control the size of an industry's capacity, thereby preventing "excessive competition." Some of the export cartels are an attempt to forestall restrictive actions against Japanese manufacturers. Washington, for example, might extract a promise from Tokyo to limit exports to the United States of a particular

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[6] FTC/Japan Views, op. cit., p. 7.

Table 5: Japanese Cartels Legally Exempt from Antimonopoly Law, 1955-88

(as of March 31 of each year)

	General		Trade-Related		Small and Medium Firm-Related	Environment Sanitation Act	Other	Total
	Depression	Rationalization	Import	Export				
1955	0	0	0	14	143	---	5	162
1960	4	9	2	170	370	0	40	595
1965	2	14	2	208	587	122	64	999
1970	0	10	4	214	469	123	66	886
1975	2	0	4	105	511	122	44	788
1980	1	1	4	66	267	122	30	491
1981	1	1	4	62	268	122	31	489
1982	3	0	3	57	290	122	28	503
1983	2	0	2	56	263	123	25	471
1984	0	0	2	56	231	124	23	436
1985	0	0	2	56	235	123	24	440
1986	0	0	2	57	226	116	25	426
1987	0	0	2	55	224	76	25	382
1988	2	0	1	53	185	53	16	310

Source: Fair Trade Commission

product. In the absence of a specific arrangement to the contrary, the typical Japanese exporter would want its competitors to cut their shipments, with it being able to reap the benefits of the resultant higher prices without suffering the disadvantage of a smaller volume of shipments. To get around this free-rider problem, a cartel is necessary. Mitsuo Matsushita, a law professor at the University of Tokyo, says that the majority of major trade cases with the United States have been handled by means of export cartels organized by the Ministry of International Trade and Industry.[7]

Some analysts, particularly in the United States, have argued that cartels set up to aid a specific industry have been an integral part of Japan's industrial policy, tilting the advantage to that country's manufacturers in international competition. This view -- either of the role of cartels or of industrial policy more generally -- is far from universally accepted even among American specialists on the Japanese economy. Space limitations preclude considering this argument in detail.[8] However, some general observations concerning this argument appear appropriate.

- Most legal cartels have no international dimension involving exports or competition with imports. Many of the cartels involve small businesses providing services locally.

- Organizing a cartel to promote exports normally is considered illogical. Actions to raise prices hardly seem like the appropriate way to penetrate export markets. In fact, foreign critics usually argue that Japanese firms have cut prices excessively. The coexistence of a cartel with price-cutting hardly establishes the cartel as the cause of the low prices. More likely the cartel is an effort to prevent the price-cutting, as in the case of export cartels organized in response to U.S. pressure.

- Industry-specific cartels involving large firms have been declining in number rather dramatically. In June 1988 the Depressed Industry Law, first enacted in 1978, was allowed to lapse and, with it, the ability of manufacturers of 26 products to engage in coordinated actions, including concerted investment and joint marketing (see JEI Report No. 30B, August 5, 1988).

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[7] Mitsuo Matsushita, BYU Law Review, No. 2, 1987, p. 569.

[8] See Edward J. Lincoln, Japan's Industrial Policies (Washington, D.C.: Japan Economic Institute, 1984) and Iyori Hiroshi, "Antitrust and Industrial Policy in Japan: Competition and Cooperation" in Gary Saxonhouse and Kozo Yamamura, (ed.), Law and Trade Issues of the Japanese Economy (Seattle, Washington: University of Washington Press, 1986), pp. 56-82. The use of cartels to promote economic growth is discussed in Gary Saxonhouse, "Industrial Restructuring in Japan," Journal of Japanese Studies, Summer 1979, p. 306, and in Kozo Yamamura, "Success That Soured: Administrative Guidance and Cartels in Japan," in Kozo Yamamura (ed.), Policy and Trade Issues of the Japanese Economy (Seattle, Washington: University of Washington Press, 1982), pp. 77-112. Saxonhouse finds the proposition that cartels have aided the process of discarding so-called sunset industries illogical. Yamamura suggests that, while legal cartels may have helped expansion during some phases of postwar growth, they have outlived their usefulness.

A new form of legal cartel has surfaced very recently in connection with the 3 percent consumption tax imposed on virtually all transactions in Japan beginning April 1. The law providing for the tax also permits the organization of cartels to standardize within an industry group how to designate the tax in pricing and how to shift the burden of the tax to consumers. The Fair Trade Commission reportedly fought the proposals inside the government and won some concessions that limited the circumstances under which the cartels would be legal.

Firms of any size can engage in the first type of cartel, but the cartel is supposed to limit itself to such discussions as whether to erect a banner in stores saying that the tax is included in the marked prices or to explicitly indicate the amount of tax on each item. The second cartel type involves discussions about measures that make sure manufacturers or retailers do not end up paying the tax. A possible discussion topic under this type of cartel would be whether to reduce serving sizes in a restaurant 3 percent or (alternatively) raise meal prices 3 percent. This kind of cartel is supposed to be limited to small firms and is prohibited from raising effective prices more than 3 percent by, for example, boosting prices 3 percent and reducing beverage sizes 3 percent.

Permission for both types of "concerted measures" is due to expire March 31, 1991. Japanese entrepreneurs seem to have leaped at the chance to organize special groups under these provisions, putting together hundreds of cartels throughout Japan. Whether or not the measures will be effective in obtaining their stated objectives remains to be seen. Skeptical American analysts probably would expect these provisions to lead to price-fixing exceeding that permitted for purposes of the "smooth" implementation of the new tax. Whether or not this will happen is not yet known, although the FTC already is investigating some situations where it believes this may have occurred.

In addition to legal cartels, the Japanese government prevents competition through the use of regulatory authority. In 1987 the FTC estimated that approximately 40 percent of Japan's economy was subject to substantial government intervention through legal cartels and other regulations. A significant percentage of the restrictions -- perhaps more than half -- were other than legal cartels. In addition to cartels, the restrictions included explicit entry or exit regulations and clear-cut price and output directives. An even higher percentage would have been obtained if informal measures, such as administrative guidance, had been included.

Mergers - If firms operating in the same industry combine, the chances increase for occurrences of anticompetitive activity. For this reason close monitoring of mergers, and action against those believed to hinder competition, are potentially important weapons available to antitrust authorities. Tokyo, however, has taken little action against mergers, with 1968 being a dramatic exception. That year two important cases confronted the FTC. In the first, involving the proposed merger of Yawata Iron and Steel Co., Ltd. and Fuji Iron and Steel Co., Ltd., MITI effectively countered the FTC's opposition and prevailed. The other, a proposal to merge the three largest paper companies into a concern that would control 60 percent of the market, was dropped in anticipation of the FTC's objection.

This mixed result may have discouraged the FTC from pursuing this route toward maintaining competition. In recent years the agency has confined itself to placing conditions on mergers, such as requiring the divestiture to a third party of parts of a combined firm that would have excessive market power. But even this power has been little used.

A defender of the FTC could note, however, that there have been few mergers to match those proposed in 1968. While mergers have been on the upswing in Japan in recent years (see JEI Report No. 31B, August 12, 1988), so far they usually have involved combining relatively small firms or organizational changes within what are already de facto single enterprises, as when a sales subsidiary is combined with its manufacturing parent.

The contrast with the United States in this regard is striking. For example, both countries face turmoil in their financial markets as deregulation spreads. U.S. banks have responded by numerous mergers. While most have involved small institutions, some, such as the recent one between Irving Trust Co. and Bank of New York, have involved major American banks. The largest financial merger in Japan in the 1980s -- between Sumitomo Bank, Ltd. and Heiwa Sogo Bank, Ltd. in 1986 -- was nowhere near the same magnitude. (Japanese banks, of course, have actively acquired banks in the United States, but these well-publicized cases have been dwarfed by other bank mergers in this country.) Similarly, the recent monumental mergers in the U.S. food manufacturing industry, such as Philip Morris Inc.'s acquisition of General Foods Corp. in 1985 and Kraft Inc. in 1988, have no parallel in Japan.

International Aspects of Antitrust

As noted earlier, international trade has dramatic effects on competitive conditions. Until the late 1960s American automakers often were singled out as prime candidates for antitrust action on the grounds that the Big Three (General Motors Corp., Ford Motor Co. and Chrysler Corp.) dominated the industry and appeared to be acting as de facto monopolists. With Japanese makers such as Toyota Motor Corp. and Honda Motor Co., Ltd. now grabbing shares that collectively put them well ahead of Chrysler and about even with Ford in the U.S. automotive market, few now argue that the market is noncompetitive.

But if international trade can liberate market forces, antitrust authorities also believe some kinds of international activities can reduce competition. U.S. antitrust authorities in the past have worried that American firms would use agreements with foreign firms to stifle competition worldwide. In an effort to keep noncompetitive actions abroad from contaminating competition in the domestic market, U.S. antitrust law has been interpreted to prevent the inclusion of restrictive clauses in agreements with foreign producers.

In the realm of technology licensing, U.S. firms have argued that both American and Japanese law have slowed them down in the Japanese market. Consider, for example, the case of a U.S. company that licenses a Japanese firm to use its technology in Japan. To prevent competition with itself, the American business might try to insert a clause in the contract to prevent the Japanese firm from selling the resulting product in China. U.S. antitrust authorities might feel such a contract eventually could hurt competition in the United States and take action to prevent such restrictive clauses. But if the American firm somehow convinces U.S. officials to permit such a clause, it still has to deal with Japan's FTC, which might see the potential for anticompetitive behavior at home. Recent changes in U.S. law and antitrust philosophies plus proposals to change Japanese practice have had the effect of reducing the number of complaints by American firms on this score.

As the technology licensing case illustrates, U.S. antitrust law consistently has been interpreted to have a broad reach. In 1982 a Japanese trading company (Mitsui & Co., Ltd.) even was found guilty under U.S. law for stifling competition in Indonesian logs and lumber on the grounds that the price-fixing could affect competition in the United States even though the Japanese firm did not sell the Indonesian products here.

But the best-known attempted use of U.S. antitrust law against Japanese firms involved a 16-year battle in which Zenith Electronics Corp. and National Union Electric Corp. took on Japan's major consumer electronics makers (see JEI Report No. 18B, May 8, 1987). The U.S. companies claimed that the Japanese firms used a variety of means, including dumping and predatory pricing in the 1960s and 1970s, to try to drive them out of the television business. Zenith and NUE eventually lost. U.S. courts based their decision in part on the unlikelihood of predatory pricing by means of a cartel that artificially lowers -- rather than raises -- prices.

A more recent case involves polysilicon, used in the production of silicon wafers that, in turn, are used to make integrated circuits. Echoing similar complaints by Zenith almost two decades ago, Union Carbide Corp. has charged that Japanese manufacturers have attempted to form a cartel to manipulate world prices downward. It claims that this action is intended to protect the profitability of silicon wafers, which the Japanese companies also produce, and reduce Union Carbide's ability to manufacture the product at a profit (see JEI Report No. 40B, October 21, 1988). This case eventually may hinge on unrelated questions, but to the extent that the predatory pricing charge turns out to be important, Union Carbide might benefit from new intellectual opinion concerning that practice. In contrast to the situation when the Zenith case finally was decided, an increasing number of economists find predatory behavior a profit-maximizing strategy in some situations, particularly if, as in this case, it involves predatory investment.[9]

In contrast to U.S. law, Japan's Antimonopoly Law does not reach activities taken outside the country even if they affect competition domestically. However, international trade and Japanese antimonopoly law still interact. American soda ash producers argued at the start of the 1980s that Japanese producers had formed a cartel to limit imports from the United States. In April 1983 Japan's FTC found the arguments convincing and ordered the Japanese firms to discontinue the practice and, specifically, to offer the liberal use of a port terminal for offloading soda ash, among other measures. In a November 1987 report the FTC found that noncompetitive practices had ceased, although some American observers are skeptical.

Antitrust law -- designed to protect competition -- and other trade law and administrative actions -- which may be protectionist -- sometimes conflict.

[9] For a discussion of this research, see Charles W. McCall, "Predatory Pricing: An Economic and Legal Analysis," Antitrust Bulletin, Spring 1987, pp. 1-59.

In the United States Terry Calvani, a member of the Federal Trade Commission, has argued that antitrust law should be brought to bear in dumping cases, an argument that, if convincing, would make the U.S. firm filing dumping charges the guilty party.[10] He maintains that dumping charges often are really efforts by U.S. firms to limit competition and, as such, should come under the purview of antitrust statutes.

A similar argument has been made in Japan. In the settlement of a rare case involving charges of dumping in the Japanese market, Korean knitwear manufacturers agreed to set minimum prices (see JEI Report No. 7B, February 17, 1989). One of Japan's largest daily newspapers, Yomiuri Shimbun, pointed out in an editorial that this action, which was taken at the request of Japanese competitors, appears to be in violation of Japan's Antimonopoly Law.[11]

Whither Antimonopoly Policy?

Competition policy has had its ups and downs in postwar Japan. Quite often antimonopoly activism appears linked to broader reform efforts, as it was in the mid- and late 1970s, when the Antimonopoly Law was strengthened as part of the response to the 1973-74 oil shock, actions by oil companies during the crisis and the Lockheed Corp. bribery scandal. So far, however, there is no evidence that the current political influence-buying scandal rocking Tokyo, the most severe since that time, will have a similar effect.

In the United States antitrust has had a hard time in the 1980s. The Federal Trade Commission, one of two U.S. government agencies that administer American antitrust laws, suffered highly publicized budget indignities during the early years of the Reagan administration. The scope of antitrust activities at the FTC and the Justice Department has narrowed significantly. In part this trend reflects a belief that public actions, rather than private ones, promote most problems arising from a lack of competition. In this connection, government restrictions on competition in financial services, to cite one example, have eased considerably.

The perceived weakness of antitrust enforcement in Japan may have played a role in cooling the ardor for traditional antitrust activities in the United States. Japan has been successful, the argument goes, by largely ignoring antimonopoly policy and, not infrequently, acting in ways directly contrary to conventional American wisdom concerning competition. In fact, some analysts would argue that Japanese firms have done well in competition with U.S. companies for this reason. Taking the argument a step further, this group would support a further weakening of American antitrust laws, reversing in some cases decades of antimonopoly policy in the United States.

This argument appears to misunderstand some aspects of competition in Japan. For one thing, Japan, for all the shortcomings of antimonopoly policy, remains, with the postwar policy of zaibatsu dissolution and other restructuring, one of the most important models of massive procompetition policy in

[10] Terry Calvani, "Invocation of United States Import Relief Laws as an Antitrust Violation," Antitrust Bulletin, Summer 1986, pp. 527-550.

[11] Yomiuri Shimbun, February 3, 1989.

history. Arguably, its undeniable economic accomplishments may owe more to the effects of these earlier policies than to recent policies that often have gone in the opposite direction. Furthermore, whatever the merits of the argument in the United States that government, rather than private industry, is the source of practically all barriers to competition, that theory remains unproven as far as Japan is concerned. In other words, antimonopoly policy may have a continuing positive role to play in a wide variety of circumstances in Japan, whether or not it does in the United States.

Many American firms and policymakers appear to see antitrust laws in general as a major nuisance. This view may have blinded them to the potential use of antimonopoly statutes as a means of knocking down barriers in Japan. In other words, they may fail to see the good that such laws can do in Japan because they believe them to be counterproductive in the United States.

Antimonopoly policy has only a small role in current U.S. international economic policymaking, reflecting its diminished status throughout government. U.S. efforts to get Japan to change its distribution system are a possible exception, but in this case access for American firms, rather than competition per se, seems to be the main concern. Rather than reacting to the perceived weakness of Japanese antitrust law by proposing measures that relax U.S. statutes, American officials might enjoy better success if they push an activist antimonopoly policy toward the top of the negotiating agenda with Tokyo. They might be surprised at the positive response.

Conclusion

When U.S. occupation authorities first proposed an antimonopoly law for Japan, many in both countries were highly skeptical that such an alien flower could ever bloom in Japan. After four decades the plant may not be thriving, but it has survived sometimes determined efforts to completely root it out. The vigorous competition among Japanese firms and with their American rivals even may be partly a consequence of the seed planted by American visionaries more than a generation ago. While U.S. firms trying to penetrate the Japanese market often have found the competitive thicket overwhelming, a part of that thicket was planted by Americans.

As the economies of the United States and Japan have become more intertwined, their antimonopoly and trade laws have had an increasing impact on each other. U.S. antitrust laws sometimes have been enlisted in dubious efforts to protect domestic firms against the onslaughts of Japanese competition. Americans have found Japanese antitrust legislation a weak reed to rely on to ensure that they face fair, competitive conditions in Japan. And U.S. trade actions directed against Japanese firms also have harmed competititive conditions in the United States.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily reflect those of the Japan Economic Institute.

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JEI

REPORT

NO. 21B
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Recruit Ax Continues To Fall

Tokyo prosecutor Yusuke Yoshinaga has netted the first politicians in his 10-month crusade to uncover graft in Japanese politics. Takao Fujinami, a Liberal Democratic Party member and former Prime Minister Yasuhiro Nakasone's chief cabinet secretary, and Katsuya Ikeda, a Komeito member, were formally charged May 22 with receiving money and preflotation shares of Recruit Cosmos Co., Ltd. stock from its parent company, Recruit Co., Ltd., in exchange for political favors. The Tokyo prosecutor's office so far has arrested 13 people in connection with the Recruit case; eight already have been indicted. Some 44 politicians, including Prime Minister Noboru Takeshita, have chosen or been forced to resign to atone for their involvement in the most serious case of political influence-buying in recent Japanese history.

Charges against Messrs. Fujinami and Ikeda revolve around efforts by Recruit founder and former chairman Hiromasa Ezoe in 1986 to affect Diet action on a law governing employment practices. The statute, which prohibits Japanese employers from recruiting university students until they are midway through their senior year, benefited Recruit's main business of publishing help-wanted

STATISTICAL SUPPLEMENT

Trade and Payments Data

(in millions of dollars unless otherwise indicated)

	1987	1988	January-March 1988	January-March 1989	January 1989	February 1989	March 1989
Japan's Balance of Payments							
Trade Balance	$96,386	$95,012	$21,021	$21,280*	$4,174*	$9,023*	$8,083*
Exports (f.o.b.)	224,605	259,765	59,345	66,680*	18,781*	21,995*	25,904*
Imports (f.o.b.)	128,219	164,753	38,324	45,400*	14,607*	12,972*	17,821*
Current Account Balance	87,015	79,631	18,421	15,761*	1,734*	7,706*	6,321*
Long-Term Capital (net)	-136,532	-130,930	-15,142	-5,487*	-4,590*	-3,354*	2,457*
Overall Balance	-29,545	-28,982	8,694	23,954	2,759	5,190	16,005
International Reserves (end of period)	81,479	97,662	84,857	99,353	98,177	98,830	99,353
Japan's Customs Clearance Trade							
Trade Balance	79,706	77,563	15,774	17.100	3,248	7,238	6,614
Exports (f.o.b.)	229,221	264,917	60,279	68,247	19,367	22,383	26,497
Cars	35,693	38,671	8,981	10,088	3,226	3,445	3,417
Steel	12,610	15,322	3,292	3,812	1,082	1,248	1,482
Imports (c.i.f.)	149,515	187,354	44,505	51,147	16,118	15,146	19,883
Crude Oil	20,663	18,852	5,744	5,147	1,599	1,602	1,945
Manufactured Products	65,961	91,838	20,998	25,588	7,914	7,580	10,093
Japan-U.S. Trade							
Trade Balance	52,090	47,597	9,769	11,162	2,972	4,176	4,014
Exports (f.o.b.)	83,580	89,634	19,859	22,728	6,505	7,572	8,651
Imports (c.i.f.)	31,491	42,037	10,090	11,566	3,534	3,396	4,637
Yen-Dollar Exchange Rate (average for period)	Y144.64	Y128.15	Y128.0	Y128.5	Y127.2	Y127.8	Y130.4
U.S. Trade							
Trade Balance	-152,119	-118,716	-29,360	-23,764	-8,738	-8,724	-6,303
Exports (f.a.s.)	254,122	322,225	76,234	88,867	27,295	27,964	33,609
Imports (Customs)	406,241	440,940	105,594	112,631	36,032	36,687	39,912
U.S.-Japan Trade							
Trade Balance	-56,326	-52,070	-12,184	-12,407	-3,533	-4,650	-4,223
Exports (f.a.s.)	28,249	37,732	8,837	10,399	2,939	3,292	4,168
Imports (Customs)	84,575	89,802	21,021	22,806	6,473	7,942	8,391

*Preliminary

STATISTICAL SUPPLEMENT

Japanese Economic Indicators

(percent change from year-earlier period unless otherwise indicated)

	1987	1988	January-March 1988	January-March 1989	January 1989	February 1988	March 1988
Discount Rate (end of period)	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Outstanding Money Supply	10.4%	11.2%	12.1%	10.3%	10.0%	10.4%	10.3%
Industrial Production	3.4%	9.4%	10.6%	8.1%	8.9%	4.6%	10.1%
Manufacturing Operating Rate	0.1%	6.0%	6.9%	3.1%	5.0%	-0.1%	4.6%
Number of Bankruptcies	-27.1%	-20.0%	-22.9%	-26.3%	-32.9%	-27.5%	-19.2%
Residential Construction Starts	22.7%	0.6%	16.8%	-5.8%	-8.3%	-9.5%	-0.5%
Job Openings to Applications (ratio)	0.70	1.02	0.88	1.14	1.14	1.15	1.13
Nominal Wages	1.9%	3.8%	2.3%	4.3%	6.2%	3.5%	3.3%
Labor Productivity	5.8%	11.5%	12.4%*	9.9%*	9.9%	n.a.	n.a.
Wholesale Prices	-3.7%	-1.0%	-1.0%	0.2%	-0.1%	0.3%	0.5%
Consumer Prices	0.1%	0.7%	0.8%	1.1%	1.1%	1.0%	1.1%
Yen-Based Export Prices	-5.1%	-2.2%	-5.6%	2.5%	2.3%	2.1%	3.2%
Yen-Based Import Prices	-8.3%	-4.6%	-3.9%	0.5%	-1.4%	0.7%	2.3%

*January of each year only.

For Japan's most recent GNP figures, see JEI Report No. 12B, March 24, 1989.

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REPORT

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THE DILEMMA OF JAPANESE TECHNOLOGY TRANSFER TO DEVELOPING COUNTRIES

Summary

Technology transfer is an integral part of foreign aid -- one that is increasingly important to developing countries. It also is one of the most difficult types of economic assistance to implement. The Japanese private sector, which has the resources to transfer appropriate technologies to developing countries, lacks the incentive to do so. By contrast, the Japanese government has the incentive but not the resources to effect such transfers. Tokyo has been encouraging cooperation between foreign aid programs and private resources, but the alliance is difficult to forge.

Introduction

"Economic cooperation" is a term loaded with implications for Japanese policymakers. Japan has embraced promotion of Third World economic development as a cornerstone of its foreign policy (see JEI Report No. 43A, November 11, 1988). Since Japan's constitution prevents substantial expansion of the country's military capabilities, policymakers say that economic assistance is the single best way that Japan can "share the burden" of contributing to international economic and political stability. Foreign aid also provides the underpinning in Japan's game plan for a positive international image. Economic assistance packages often are used to smooth over international disputes -- including developing country complaints about Japanese economic activities, mounting trade tensions with the United States and U.S. demands that Japan do more to contribute to the security of the noncommunist world. By explicitly singling out economic assistance as the primary way of meeting the "international responsibilities of a surplus nation," Japan has staked its international credibility as a major power on the effectiveness of its aid program.

Thus far, Tokyo has relied on a straightforward demonstration of its commitment to foreign aid: a steady increase in the amount of money it channels to less developed countries. The Japanese government has initiated a series of aid-doubling measures to show its determination to expand disbursements. Largely due to these efforts, Japan replaced the United States as the world's largest aid donor this year.

But focusing on absolute quantities of aid can obscure other important aspects of economic assistance. For one, critics point out that the sharp appreciation of the yen since 1985 has made the dollar value of Japanese assistance soar. (The Development Assistance Committee of the Organization for Economic Cooperation and Development measures aid in dollar terms; therefore, the value of yen-denominated loans and grants is inflated when the dollar's strength wanes against the yen.) Even more important are the concerns that go beyond the mere quantitative assessment of disbursements. Critics have urged more emphasis on types, not amounts, of aid. Recognizing this problem, Japanese policymakers have pledged to improve the quality of Japanese aid -- for example, by increasing the grant component and emphasizing "basic human needs" rather than capital-intensive aid.

The issue of quality cuts to the heart of Japan's goal to convince other countries that its aid is indeed a contribution to international economic and political stability rather than merely a ploy to win markets. Intertwined with aid quality is the issue of technology transfer. Most policymakers will agree that money alone will not stimulate economic development in countries that lack the physical or social infrastructure to utilize aid effectively. To be truly effective aid must be accompanied by an effort to transfer fundamental skills and knowledge to developing countries. These transfers can be narrow in scope, such as project-specific technical training, or they can be quite broad-based, such as general educational and research support.

What is Technology Transfer?

Technical skills and knowledge have a definite link to self-sufficiency and international competitiveness. But the successful transfer of these benefits is difficult to quantify. Pledging to increase the transfer of technology to a developing country is very different from promising an increase in foreign aid. While foreign aid can be measured by the dollar (or yen) amount, it is practically impossible to measure the extent of technological expertise transferred from one country to another.

A major problem is that there is no standard definition of "technology" -- much less "technology transfer." One of the most common definitions denotes technology as the capacity to apply science to economic activities or production. This sufficiently broad interpretation ensures that "technology" means different things to different people. Nonetheless, there have been attempts to categorize those technologies that apply to Third World development. Terutomo Ozawa, writing for the United Nations Conference on Trade and Development, has classified technology into five basic types:

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Plant-embodied technology - Overall plant design and layout.

Input-embodied technology - Material inputs supplied by foreign countries.

Product/process-embodied technology - Scientific and engineering specifications, the processes used to produce profits and packaging/marketing procedures.

Human labor-embodied technology - Skills and know-how acquired through formal specifications/formulae/manuals and training/human contact.

Organization-embodied technology - Organizational efficiency, delegation of responsibilities, control of resources, ways to motivate workers and ability to attain corporate objectives.[1]

While definitions of technology may differ most agree that the actual transfer of technology has not occurred until the recipient country possesses the capability to utilize the information successfully. The mere presence of sophisticated foreign operations and personnel does not constitute technology transfer unless local personnel acquire these skills and use them independent of the foreign firm. Thus, measuring technological transfer is a tricky business. Japanese statisticians often examine inputs to measure change -- for example, the number of people trained by Japanese experts, the number of Japanese experts sent to developing countries, or the value of investment activities in LDCs. Yet these inputs may bear absolutely no relationship to whether the recipient has absorbed technical knowledge effectively.

Recipient Demands: Options for Acquiring Technology

Developing countries have four major choices in deciding how they will acquire technology.

- They can rely on foreign direct investment. This limits the recipient's independence since the foreign firm retains control of the technology brought into the country. Under this strategy the recipient must rely on the eventual diffusion of the technology from the foreign-owned firm to domestic firms; this usually occurs when local employees of foreign firms leave their jobs to work for domestic firms. To the extent that foreign firms can retain domestic employees for long periods of time, technology transfer is an extremely slow process.

- Developing countries simply can purchase technologies from industrialized countries and adapt them to their own development needs, as Japan did in its development strategy. While this option maximizes LDC control over the transfer process, it also is the least likely option for many developing countries. Capital is so scarce in many Third World countries -- especially among debt-ridden Latin American nations and the destitute countries of sub-Saharan Africa -- that the outright purchase of technology is virtually impossible.

[1] Terutomo Ozawa, International Transfer of Technology by Japan's Small and Medium Enterprises in Developing Countries (United Nations Conference on Trade and Development, 1985), pp. 18-19.

Moreover, purchased technology is unproductive unless qualified personnel are available to use it. In many developing countries, the shortage of engineers and other technical personnel renders this option impracticable.

- LDCs can acquire technology simply by studying foreign imports and adapting the technology to the specific needs of the country -- another method used by Japan. Again, this approach assumes that the recipient country has a corps of people able to "reverse engineer" foreign products. This may be true in some Asian countries (such as South Korea), but a shortage of qualified technical personnel is the rule rather than the exception.

- Developing countries can rely on foreign governments for technology transfer. The advantage of this approach is that the donors actively try to promote technical assistance. The primary disadvantage is almost insurmountable, though: most of the technology that developing countries desire can be transferred only by the private sector. According to Japan's Ministry of Foreign Affairs, LDC requests for technical assistance are becoming increasingly sophisticated -- and therefore increasingly difficult for the government to meet (see Table 1). Much of the technology listed in the table depends on the private sector's willingness to transfer knowledge and skills. Although government assistance programs can provide some training and expert assistance, MFA readily admits that its programs alone cannot satisfy developing country demands.

Table 1: Trends in Developing Countries' Requests for Japanese Technical Assistance

Past	Present
vocational training	remote sensing technology
agricultural development	new energy development
forestry development	computer technology
urban transportation controls	biotechnology
medical cooperation	biogenetic resources research
	management control
	productivity improvement
	measuring standards
	quality control
	patented information

Source: Ministry of Foreign Affairs

The first and fourth options listed above are those on which LDCs rely most heavily. Government technical assistance is welcome, especially since it is given on concessional terms. But the countries also recognize that the best source of the technology they desire is through foreign direct investment. Technology transfer most commonly occurs in this form when multinational corporations train managerial and professional employees, who later leave the MNCs to work for domestic firms or other organizations. This kind of turnover yields a double benefit; not only do the newly trained employees bring their skills to domestic organizations, but the MNC also must train new people to fill the vacated positions.

Japanese Suppliers: Motivations and Capabilities

In addition to its assertion that aid to the developing world is the "price the nation must pay in order to fulfill its international responsibilities as a major economic power and to promote and preserve world peace and stability,"[2] the Ministry of Foreign Affairs stresses another reason for its technical assistance programs. "Technical cooperation is also an important measure to show Japan's willingness to grant assistance to those countries that do not qualify for financial assistance."[3] Under the guidelines established by OECD's DAC, countries with per capita incomes above a certain level do not qualify for foreign aid, while those with severe debt-servicing difficulties are ineligible for new loans. These limits cover many oil-producing countries as well as a number of Latin American countries. At the same time, official Japanese discussions of aid policy recognize the value of technical assistance for the least developed countries. Because these countries cannot absorb large amounts of financial assistance, aid in the form of person-to-person training can supplement monetary contributions.

Officials, recognizing the public sector's limits, point out that the real strengths in technical assistance are in the private sector, which possesses more sophisticated knowledge and financial resources than do government agencies, as well as a finely tuned sense of how to operate in a competitive world. Thus, when developing countries request technical assistance in such areas as export promotion or advanced technologies, Japanese aid agencies are uncomfortably aware that they are not in the best position to deliver.

Most businesses also are better qualified than government officials to judge what technologies are appropriate for a particular country's development needs. The question of "appropriate technology" is one of the most widely discussed issues among policymakers since the choice of a technology -- vis-a-vis suitable opportunities for its use -- has a critical impact on successful development. Japanese firms, which tend to be vigilant in finding ways to maximize performance amid competitive conditions, are in a good position to give advice regarding appropriate technology.

But it is difficult to think of specific incentives for Japanese firms to actively promote technology transfer to the Third World. Analysts have outlined several reasons why such transfers are in the best interests of First World industries:[4]

- Technology transfer (almost by definition) expands the capabilities of Third World countries. This can lead to economic growth in developing country markets, thereby expanding markets.

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[2] Keisuke Arita, "Japan's Technical Cooperation with the Developing Countries," Journal of Japanese Trade and Industry, No. 2, March 1, 1985.

[3] Ministry of Foreign Affairs, Japan's Official Development Assistance (Tokyo: Association for the Promotion of International Cooperation, 1987), p. 106.

[4] See, for example, Leslie Dawson, "Transferring Industrial Technology to Less Developed Countries," Industrial Marketing Management, XVI, No. 4, November 1987.

- Industrial firms can cement their relations with resource-rich developing countries by facilitating transfers of technology. This can ensure continued access to strategic raw materials -- an issue that has been of driving concern to Japanese industries.

- Industries can use technology transfer as one means of protecting their investments. By expanding the skills and self-sufficiency of Third World countries, for example, Japan's private sector can reduce the possibility of widespread debt defaults. Furthermore, foreign companies can contribute to economic stability, which in turn can aid political stability, thereby reducing the risk that their existing investments will be nationalized.

- Technology transfer can be used as a kind of goodwill "insurance," based on the premise that an underdeveloped country that receives help and makes significant economic progress (similar to the current situation in Asia) might be predisposed favorably toward its benefactor in future global power shifts. In such a case, First World firms will have had the foresight to enhance solid political and economic relations.

- The private sectors of industrial countries have a "moral imperative" to aid the economies of less developed countries, according to some theorists. Quite simply, this view says that the more fortunate have a duty to share their knowledge and skills with the less fortunate, thereby facilitating their economic growth and transition to self-sufficiency.

These benefits of technology transfer all may be valid, but they do not reflect the actual motives of the private sector. Since technology transfer usually occurs via direct investment, it is useful to examine first the motives for investment and then the connection between investment and technology transfer.

The moral imperative argument is especially optimistic. Firms simply do not base their investment decisions on broad considerations like North-South inequities. They act out of self-interest. And although Japanese firms are known for their willingness to sacrifice short-term gains for a longer term payoff, they nonetheless take a shorter term view than the need to prepare for possible world power shifts (reason four).

Regarding the third point, most firms do not believe that the way to protect current investments is through technology transfer or increased investments in unstable countries. Whether or not this strategy could help stabilize an investment environment, it does not make sense for a firm to protect itself by increasing its current risks. There is, for example, a real fear among some Japanese industries of "throwing good money after bad." In fact, rather than sinking money in developing countries to foster a secure investment climate, Japanese firms have pulled out of unstable developing regions (especially the Middle East and sub-Saharan Africa). Industrialized countries offer a sound alternative; consequently, Japanese firms' investment dollars are flowing more and more today to the United States and Europe.

Still, there are concrete reasons for investing in developing countries. Not least among these is the fact that labor costs in LDCs are significantly lower than in Japan and other industrialized countries. Especially since the rise in the value of the yen following the Plaza Accord of September 1985, Japanese firms have had substantial cost incentives to engage in foreign investment. Thus, the absolute value of Japanese investment has increased almost across-the-board (see JEI Report No. 23B, June 17, 1988). In the developing world, countries in Asia and Latin America have been the primary beneficiaries.

In short, private firms -- whether in Japan or any other country -- make foreign investments only if they expect to see a concrete gain. In this respect, the first and second points above are well-taken: Japanese firms do take export opportunities and natural resource availability into account when making investment and technology transfer decisions. For example, a 1981 survey of Japanese industries in Brazil revealed that firms tend to have relatively short-term and tangible reasons for investing there. (It should be noted that the survey asked Japanese investors why they "transfer technology" to Third World countries; however, the context of the survey indicates that "transfer technology" was used as a synonym for "invest.")

The four most commonly cited reasons (in no particular order) were: to develop or defend local markets for Japanese goods; to acquire and assure the supply of raw materials; to search for low-cost production sites; and to escape the space constraints that limit industrial expansion in Japan. Other less commonly cited reasons included: to assure the continuance of Japanese exports to the host country; to avoid the constraints posed by strict pollution control laws in Japan; and to follow the lead of a competitor firm.[5]

Transferring production activities inevitably leads to some transfer of technology to the host country. However, does Japanese willingness to invest in developing countries necessarily translate into a willingness to transfer technical knowledge and skills to those countries? The answer is no -- or at least not necessarily. Certainly the training of local employees for positions of responsibility in the firm has advantages. Local employees have language skills and local knowledge that are indispensable to the Japanese firm. But Japanese investors fear that too much training or knowledge-sharing will come back to haunt them. As developing countries acquire more technology, they attain a greater level of self-sufficiency. When this happens, the host country may cease being a market for Japanese products. Worse yet from the Japanese viewpoint, indigenous firms may utilize the transferred technology so effectively that they begin to compete head-to-head with Japan -- in much the same way that Japanese firms acquired and adapted foreign technologies to challenge Western preeminence in international markets.

This "boomerang effect" already has struck some Japanese firms. For example, Japanese steel firms cooperated with South Korean firms in establishing the Pohan steel works. Korean firms were so pleased with the project that they suggested expanding the cooperation to other projects. Japanese steel companies were not enthusiastic; the Pohan venture had allowed South Korean steel producers to become competitive vis-a-vis their Japanese counterparts. Korean firms now supply Japan with some of their steel -- and at prices 7 to 15 percent cheaper than Japanese steel of comparable quality.[6]

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[5] Charles H. Smith III, Japanese Technology Transfer to Brazil (Ann Arbor, Michigan: UMI Research Press, 1981), p. 43.

[6] Akira Kubota, "Transferring Technology to Asia," Japan Quarterly, XXXIII, No. 1, January-April 1986, pp. 38-39.

Not surprisingly, the more sophisticated the technology involved, the more reluctant Japanese firms are to transfer it, especially to countries that have the potential to challenge Japanese producers. Technology represents competitiveness -- the ability to create or maintain state-of-the-art products and production methods. It is a commodity that is bought and sold internationally, not given away lightly.

Thus, despite the political and diplomatic pressure on Japan to be generous in facilitating technology transfer, the Japanese private sector has few incentives to do so. Even when there is a specific gain to be made by transferring knowledge or skills, Japanese companies have learned from bitter experience to be cautious. They see technology transfer more as an unpleasant consequence of overseas investment than as a long-term goal.

Issues in Private Technology Transfer: A Comparative Perspective

Although Japanese firms are unlikely to transfer technology deliberately, the extent of their overseas investments makes transfers inevitable. It is virtually impossible, for example, to locate a firm overseas without hiring and training local employees. What is critical to a technology transfer, then, is how conducive the management and operations of Japanese overseas ventures are to the diffusion of technologies. Since "conduciveness" is difficult to measure, the best way to examine this question is perhaps to compare Japan to another country with technology to share. Do Japanese firms tend to transfer technology to a greater or lesser extent than other foreign investors? To this end, there have been a number of studies that compare U.S. and Japanese investment practices.

Charles Stewart Jr., who has conducted extensive research on U.S. and Japanese investment in developing countries, has argued that Japanese and U.S. industries traditionally have invested in developing countries for different reasons.[7] While U.S. investors have tended to establish manufacturing operations in the Third World with the intention of producing for local consumption, Japanese firms have been more likely to produce for export. Mr. Stewart argues that the export orientation of Japanese investors makes low labor costs an especially important drawing card in moving production offshore. Although cheap labor also has been attractive to U.S. investors, access to protected local markets has been more of a draw. The eventual market obviously affects the choice of products to be manufactured. Japanese overseas plants have concentrated on labor-intensive products that are relatively more expensive to produce in Japan, while U.S. firms have been more likely to focus on more sophisticated industries or services.

While Mr. Stewart may be correct in identifying a historical tendency, today's situation is not at all clear-cut. U.S. firms often shift offshore to take advantage of low-cost assembly and then ship those products to the United States. (Witness, for example, U.S. automotive companies' assembly operations in Mexico.) Similarly, Japanese firms by no means restrict themselves to reexporting the products they manufacture or assemble offshore. A common complaint among members of the Association of Southeast Asian Nations is that as much as they welcome Japanese investment, they want to see investment ventures that are targeted less at domestic markets and more toward exports. This, they say, would both improve their trade balances and expand their export know-how.

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[7] Charles T. Stewart Jr., "Comparing Japanese and U.S. Technology Transfer to Less-Developed Countries," Journal of Northeast Asian Studies, IV, No. 1, Spring 1985, pp. 9-10.

Another factor that complicates Mr. Stewart's argument is that U.S. firms had a head start on Japanese firms in setting up overseas operations. It is typical for businesses to begin foreign activities with uncomplicated ventures and move gradually to more sophisticated ventures. The least complicated type of offshore operation is one in which the investing firm utilizes cheap overseas labor to assemble components and then ships the assembled products back to the home market. Indeed, early U.S. investment in Third World countries concentrated heavily in this area. As investors gain experience with overseas locations, they often begin to produce as well as assemble components. This is precisely what has been happening with Japanese firms, which increasingly are deciding to establish offshore production for more sophisticated industries. As time goes on, then, American and Japanese patterns are likely to converge.

Some analysts argue that the U.S. tendency to invest in more sophisticated industries has had a negative impact on their effectiveness in tranferring technology. Professor Kiyoshi Kojima maintains that U.S. overseas investments involve technologies that are more complex and therefore difficult for LDCs to absorb. By contrast, he says, the technologies associated with Japanese investment are well-established and standardized -- that is, more appropriate for Third World development.[8]

A 1979 survey by the Economic Planning Board of the Korea Industrial Bank supports Professor Kojima's theory, at least in the case of South Korea.[9] Japanese and U.S. affiliates in South Korea were asked what factors inhibited the transfer of technology and management know-how to local Korean firms. U.S. affiliates were more likely than Japanese affiliates to attribute problems to a lack of capacity to absorb the information (see Table 2). Thus, there is some

Table 2: Reasons Given by Japanese and U.S. Affiliates in Korean Manufacturing Industries for Nontransfer of Technology

(percentage of affirmative answers)

	Japanese Affiliates	U.S. Affiliates
Lack of absorptive capacity	20%	50%
Restrictions imposed in the contract	20	17
Conscious attempt to prevent transfer	60	0
Other	0	33

Note: Respondents included 15 Japanese affiliates and six U.S. affiliates.

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[8] Cited in Chung H. Lee, "Transfer of Technology from Japan and the United States to Korean Manufacturing Industries: A Comparative Study," Hitotsubashi Journal of Economics, XXV, No. 2, December 1984, p. 125.

[9] Ibid., p. 130.

evidence for the argument that Japanese technology is more appropriate for transfer than U.S. technology -- although this difference is likely to become marginal in the future.

The sophistication of the technologies involved is only one factor affecting the transferability of knowledge and skills. Another factor is the management and training practices of the investor. U.S. and Japanese firms have extremely different management policies. As discussed above, technology transfer has not occurred until the information or know-how has been communicated to the host country. The most common way for this to happen is for an employee of the foreign affiliate to leave his or her job in order to work for a domestic organization. If a foreign affiliate engages in extensive training of indigenous employees but retains these employees on a long-term basis, technology transfer can be significantly retarded. This is a good example of private investors' goals conflicting with the aims of technology transfer. It is in the best interests of the investor to train a limited number of employees and retain their services for as long as possible. Facilitation of technology transfer requires exactly the opposite: a stream of indigenous personnel who stay with the foreign affiliate just long enough to absorb relevant training or information.

Thus, it is important to examine the attitudes of Japanese and U.S. affiliates toward training and length of stay. Not surprisingly, Japanese firms place more emphasis on long-term employment than do U.S. firms. In fact, Japanese hiring practices emphasize a candidate's ability to fit into the group and the probability of staying with the firm as much as his or her professional qualifications. By contrast (and again, similar to hiring practices in the United States), American affiliates are more likely to focus on a candidate's education, performance on aptitude tests and other professional qualifications. Employees also find that Japanese management techniques are structured to encourage worker loyalty and "team spirit." According to Mr. Ozawa, some of these techniques include: ringi system of bottom-up decision-making and consensus-building; long-term job security (perhaps including lifetime employment); attempts to avoid layoffs if at all possible; wages based on seniority; bonus system; suggestion boxes; employee participatory meetings; company uniforms; job rotation; cultural and educational programs for employees; and fringe benefits (e.g., subsidized food or housing).[10]

Moreover, once an employee is hired, he or she finds that the chances of success in the firm also differ in American and Japanese affiliates. Japanese firms are more likely to promote from within, while U.S. firms are willing to hire candidates from outside the firm. Clearly, this increases the incentives for employees of U.S. affiliates to move on to other jobs. And in fact, researchers have concluded that the turnover of managerial and professional employees is greater in U.S.-affiliated firms. Thus, the ability of Japanese affiliates to retain indigenous employees actually reduces the rate of technology transfer to the host country.

Although Japanese firms are more willing to promote from within, employees find that the number of professional positions for which indigenous employees are eligible is limited. When Japanese ventures move offshore, so do a number of their Japanese professional employees. Consequently, managerial and technical responsibilities are concentrated in the hands of Japanese expatriates. This decreases the amount of management experience and know-how that can be transferred to host developing countries.

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[10] Ozawa, op. cit., p. 30.

The large proportion of Japanese expatriates filling positions of responsibility has generated complaints from ASEAN countries. For example, a series of country studies conducted under the auspices of the ASEAN Secretariat and the Japan Institute of International Affairs (in collaboration with the Institute of Southeast Asian Studies) revealed general discontent with the process of technology transfer from multinational firms to ASEAN countries.[11] Although this discontent appears to apply to multinationals regardless of nationality, Japanese firms were singled out for particular complaints. In one study, Thai researchers cited the limited access Thai firms had to the technical know-how and production technologies contributed by Japanese expatriates. In some Japan-Philippines joint ventures, the situation went even further: every Filipino manager was assigned a counterpart Japanese manager.

Thus, in terms of employee turnover and the number of responsible positions delegated to indigenous employees, Japanese firms appear to lag behind U.S. firms in technology transfer. Yet another factor enters in, however: the quality of training received by indigenous employees. Here again Japanese and U.S. firms show important differences. American firms tend to consider training as something for new employees. Moreover, U.S. training usually is conducted via formal channels, such as classes and published materials. By contrast, Japanese firms view training as an ongoing process for employees, usually rendered in an informal or on-the-job setting.

Admittedly, Japanese on-the-job training often is not as generally applicable as the more formal kind. It has been argued that because Japanese training is more specific and situational, it is less transferable than U.S. training. This may or may not be the case. Informal training relies more on person-to-person contacts and therefore can be tailored to meet an employee's particular needs. Moreover, without the give-and-take of informal training, it is difficult to tell how much of the U.S. firms' classroom or manual training is lost on the trainees. The very fact that Japanese firms believe that training should last throughout the employee's tenure augurs well for the likelihood that the employee will absorb technical know-how.

Another difference in training policies is that Japanese firms are more likely to send indigenous employees overseas (often to Japan) for training than are U.S. companies. Nor do Japanese firms limit overseas training opportunities to professional employees (as U.S. firms generally do); production workers also are sent. Training in Japanese firms applies to everyone involved in the production process.

While this policy stems from the Japanese expectation (or at least hope) that employees will remain with the firm on a long-term basis, its effect is to encourage employees with marketable skills to accept more lucrative offers. It is true that Japanese overseas firms experience less turnover than do U.S. firms. But the turnover is not as low as Japanese investors would like it to be. Training, an integral and ongoing part of the production process in

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[11] C.Y. Ng, R. Hiron, and Robert Y. Siy Jr., Technology and Skills in ASEAN: An Overview (Singapore: Institute of Southeast Asian Studies, 1986).

Japanese firms, often backfires in overseas operations by enabling (even encouraging) employees to take their marketable skills elsewhere. As such, training is perhaps the most vital element of Japanese technology transfers to LDCs.

At a more general level, the study conducted by the ASEAN Secretariat and the Japan Institute of International Affairs concluded that when potential Western and Japanese investors negotiate with host LDCs, they take two very different approaches to technology transfer. U.S. and other Western firms make technology transfers more explicit than do Japanese firms. For example, U.S. firms often conclude contracts that outline which operating manuals will be provided to the host country. Technical guidance and personal assistance is available, but it usually is provided only when the recipient country's experts cannot understand the specifics of the manuals. By contrast, Japanese firms take a "package approach," in which they do not draw up detailed specifications regarding the nature of the transfer. This approach has generated developing country concerns regarding whether Japanese firms are serious about transferring technology, including complaints that Japanese firms deliberately prevent such transfers from taking place. (See Table 2 above, which demonstrates the perceptions in South Korea that Japanese firms consciously obstruct technology transfers to local Korean firms.)

Japanese analysts respond by arguing that because their approach is less explicit, it is better in the long run. Since Japanese industries tend to make more general agreements, they say, transfers go significantly beyond the contract specifications and "Japanese firms can thus be considered to be much more generous in providing technologies than their Western counterparts."[12]

The Importance of Small and Medium Firms

Since there are no immediate incentives for the private sector to make technology transfer a goal, the Japanese government has searched for ways to encourage private overseas investment to developing countries -- arguing that such investment would lead inevitably to technology transfers. More and more emphasis is being placed on the contributions that can be made by Japanese small and medium-sized firms.

There are a number of reasons for this. For one, large Japanese firms located in developing countries often have no need to subcontract work since they have the capacity to perform all necessary tasks within the firm. In these cases technological knowledge associated with production stays within the Japanese company itself. Small and medium-sized firms often have no option but to subcontract some portions of their production -- a situation that generates opportunities for local firms to gain contracts as well as technical knowledge.

Second, smaller firms often are more willing to participate in joint ventures with local investors than are larger firms. Clearly, if local firms have an equity in the venture, they will have a greater chance of participating in decisions regarding management and production techniques. Third, the investments that small and medium-sized companies make in Third World countries are often in industries that take advantage of low labor costs. Labor-intensive ventures require management techniques that focus on employee satisfaction and productivity -- a bottom-up management approach to labor relations. Consequently, training for skilled and semiskilled workers must be integral to a venture.

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[12] *Ibid.*, p. 111.

Japan is the only industrial nation to date whose small and medium-sized firms have shown significant interest in investing overseas. U.S. investors, for example, consist primarily of multinational companies. Nonetheless, a number of constraints work against investment by small and medium-sized firms. For example, developing country governments have tended (at least until recently) to view investment by large businesses as the way to industrialize. As a result they have offered few investment incentives to small or medium-sized firms. On the investor side, the smaller the firm, the less likely that it can bear the risks associated with overseas investment. Nor do smaller firms usually have personnel with enough experience and training to negotiate with potential host countries. This constraint has been mitigated somewhat for Japanese firms, however, since Japanese trading companies can assist small and medium-sized firms in identifying investment opportunities and intermediating between the host country and the potential investor.

Whether small and medium-sized investors will deepen their commitment to developing countries is uncertain. On the pessimistic side, as Japan's small and medium-sized firms become more sophisticated, they are moving away from labor-intensive production. This clearly reduces the importance of developing countries' low labor costs. Moreover, small and medium-sized firms are especially vulnerable to the effects of political and economic instability in the host country. Like their larger counterparts, they are finding more attractive investment opportunities in developed regions.

On the optimistic side, the strength of the yen is likely to encourage small and medium-sized firms to invest in both developed and developing countries. Government officials also are searching for ways to encourage investment in LDCs. For example, the Japan External Trade Organization and the Ministry of International Trade and Industry's Small and Medium Enterprise Agency now provide information and consulting services to small and medium-sized firms regarding the investment climate in developing countries.

Barriers to Private Technology Transfer

While the most fundamental constraint against private technology transfers to LDCs is that Japanese firms have virtually no incentive to do so, other barriers also pose problems to those willing to invest. They fall into three general categories: infrastructure, culture and legal constraints.

Infrastructure - The problems of infrastructure need little elaboration. If Japanese firms use sophisticated technologies, the recipient country may not have the personnel or facilities to incorporate the new knowledge. Policymakers in developing countries often complain that the technology foreign investors bring to their overseas ventures is inappropriate to the host country's needs. Most often, the technologies are too capital-intensive to be used effectively by indigenous industries. But LDCs also express frustration at another problem. Thai researchers, for example, have argued that foreign firms have transferred second-hand, practically obsolete equipment as "labor-intensive, appropriate technology."[13] In reality, the high maintenance costs of such equipment offset the positive benefits to the recipient country's economy.

[13] Ibid., p. 22.

Related and equally important is the notion of technological dependence. As much as most developing countries welcome foreign investment as a way to speed economic growth, they remain cautious. To exaggerate slightly, LDCs believe that technology transfer can be used as an economic weapon. They argue that technology transfer contracts usually are concluded to the advantage of the supplier rather than the buyer. The recipient's limited knowledge of the technology itself complicates an evaluation of its worth or -- perhaps more important -- an analysis of possible alternatives to the technology. Consequently, LDCs charge, the agreements made between developed and developing countries are written in such a way as to perpetuate the recipient's dependence on the supplier for technical assistance.

Culture - Some analysts have called cultural barriers the greatest challenge to the successful transfer of technology. For the Japanese especially, barriers to communication -- either lack of language skills or cultural awareness -- have created significant problems for Japan's relations with other countries. The Ministry of Foreign Affairs recently acknowledged this problem, saying that it is "not easy to expand technical cooperation . . . especially in Japan's case, because cooperation requires international understanding by the whole nation."[14]

Legal Constraints - Japanese businessmen often cite problems with the restrictions that developing countries place on private investors -- such as strict domestic content laws. Thailand, for example, has imposed tariffs on much of the inputs and equipment imported by investor firms. Lack of legal protection is as much a problem as legal restrictions. Investors have been quite uncomfortable with the weak protection that some developing countries -- especially some Southeast Asian countries -- provide to patents and trademarks.

But the restrictions are hardly only on the recipient's side. When Japanese or other foreign firms negotiate with developing countries regarding potential investments or technology sales, the supplier often places restrictions on the possible uses of the technology. For example, a technology transfer is sometimes tied to the purchase of raw materials or intermediate inputs. Alternatively, acquisition of technologies sometimes is contingent on a promise that the recipient will not export the resulting product.

Public Technology Transfer

Although private investment accounts for the bulk of technology transfer, certain transfers are arranged for other-than-profit reasons. The government is overwhelmingly the most important actor in this category. (Although the activities of Japanese nonprofit organizations have been expanding in recent years, they are still minimal compared to those of the United States.) MFA defines technical cooperation as a form of official development assistance that "teaches and transfers technologies, skills and knowledge which are important for the development of human resources, and thus contributes to the development of developing countries."[15] Officials stress that the "essence" of this cooperation is the focus on human resources.

[14] Ministry of Foreign Affairs, op. cit., pp. 113-114.

[15] Ministry of Foreign Affairs, op. cit., p. 105. See also Japan International Cooperation Agency, Annual Report 1988 (Tokyo: Japan International Cooperation Agency, 1988).

Tokyo has been attempting to expand its technical cooperation efforts, especially since technical assistance as a percentage of Japan's official development assistance is only about half the amount given by several other DAC members. For example, in 1985 technical cooperation made up 11.1 percent of Japanese aid -- as compared to 38.1 percent for France, 29.8 percent for West Germany and 21.8 percent for Great Britain.[16]

Most public technical cooperation is implemented by the Japan International Cooperation Agency, a semigovernmental organization formed in 1974 to administer technical cooperation programs and emigration services. The Japan Overseas Cooperation Volunteers -- Japan's equivalent of the Peace Corps -- also is coordinated by JICA. Moreover, JICA's functions have expanded in the past several years to include overseas disaster relief. JICA divides technical cooperation into three major categories: accepting trainees and students; dispatching experts; and providing equipment and machinery. JICA also engages in "project type cooperation," which involves ventures that incorporate all three areas of technical cooperation.

By running training programs JICA hopes to transfer technologies or knowledge to people so that "they can take an active part in the economic and social development of their countries."[17] Since 1954, when the first trainees were brought to Japan, MFA estimates that 62,000 trainees have been accepted. Note, however, that this figure describes only the number of trainees accepted, not those who actually attended training sessions. Trainees consist of a variety of people, including administrative officers, researchers and middle-level technicians from the public and the private sectors of developing countries.

Although most of the trainees are accepted for training in Japan, this is not always the case. In 1975 JICA established a "Third Country Training Program," in which developing countries receive trainees from neighboring LDCs. The aim is to increase technical cooperation among developing countries with similar physical, social, cultural and/or economic environments. As of FY 1986 this program had been carried out in 15 countries: Thailand, Singapore, Indonesia, the Philippines, Malaysia, South Korea, Chile, Costa Rica, Peru, Brazil, Egypt, Kenya, Ivory Coast, Fiji and Papua New Guinea.

Experts dispatched to developing countries often work at research institutes, government offices, project centers and vocational training centers, among others. MFA estimates that Japan sent 10,579 experts to developing countries between FY 1955 and FY 1986. JICA officials admit that this kind of technical assistance is one of the most difficult to implement successfully. The need for person-to-person communication obviously requires that JICA find willing and qualified people to help in training activities. But this is easier said than done. Japan's so-called lifetime employment system limits the flexibility of qualified individuals to devote a few years to government service. Additionally, aid officials note that Japanese people often admit to feeling uncomfortable in dealing with foreigners. Those who spend significant amounts of time abroad often experience feelings of no longer "fitting in" when they return to Japan. This situation has been changing, but such change comes slowly.

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[16] Ministry of Foreign Affairs, op. cit., p. 106.

[17] Ministry of Foreign Affairs, op. cit., p. 108.

Even those willing to go overseas often are plagued by language barriers and cultural dissonance. MFA has noted, "Compared with Western Europe and America, Japan does not have a sufficient number of talented people with rich experience in living abroad, including proficiency in foreign languages."[18] Consequently, JICA sets aside a certain amount of its budget to attract and train qualified personnel through such programs as the Institute for International Cooperation, created in 1983 to recruit and train Japanese experts for careers in technical cooperation. Similarly, JICA's Youth Invitation Program (which is categorized as a training activity) appears to be designed as much for Japan's benefit as for the LDC participants. The program arranges opportunities for Asians between the ages of 18 and 35 in a number of occupations to meet with Japanese counterparts and exchange ideas. While this does not necessarily lead to actual technology transfers, the program is expected to pave the way for future aid efforts.

The third type of government technical cooperation is the provision of machinery and equipment. Tokyo has recorded 831 cases of this kind of assistance, amounting to Y13.8 billion ($106.2 million at Y130=$1.00) since Japan began providing machinery to developing countries in 1964. Although developing countries obviously gain the opportunity to study and evaluate this machinery, many of the poorer countries do not have the human resources to do so. Consequently, the provision of machinery is recognized as the least likely form of technical cooperation to actually transfer knowledge or skills to LDCs.

Finally, there is "project type cooperation," that is, multiple-year assistance that combines training, the dispatch of experts and the provision of machinery and equipment. Tokyo has been criticized for emphasizing project-type cooperation at the expense of basic human resources development since Japan's technical cooperation remains more project-oriented and capital-intensive than that of other DAC countries (see JEI Report No. 46B, December 11, 1987). It has been said, for example, that there is an unintentional division of labor between JICA and the U.S. Agency for International Development. Whereas AID gears technical assistance toward improving the capacity of developing countries to absorb expertise (through basic education and research support activities), JICA tends to focus on industry-specific skills.

Unfortunately, this difference has perpetuated the negative portrayal of Japanese aid as a vehicle to gain markets for Japanese goods. Since project aid may be related to the needs of Japanese businesses, large projects often generate business for Japanese contractors. Moreover, the training involved with project aid tends to be less generally applicable than broader technology transfer attempts. Consequently, Tokyo has begun to move away from project aid in favor of assistance to educational and research institutions.

Conclusion: Bringing the Private and Public Sectors Together

The most basic obstacles facing Japanese technology transfer to developing countries are the private sector's unwillingness to transfer technology and the limited value of government assistance in meeting the entire gamut of LDC technological needs. An optimal solution would be to use private resources

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[18] Association for the Promotion of International Cooperation, A Guide to Japan's Aid. (Tokyo: Association for the Promotion of International Cooperation, 1987), p. 35.

(especially knowledge and skills) to make public technical cooperation efforts more responsive to developing country needs. JICA has attempted to encourage public-private interaction by establishing a "development cooperation program," which provides assistance to Japanese private-sector projects in developing countries that contribute to the development and welfare of the recipient.

Tokyo also has set up guarantee programs to encourage Japanese investment in Third World countries. Moreover, Japan's Overseas Development Corp. provides interest-free, long-term loans to Japanese firms that wish to establish joint ventures (with minority ownership) in developing countries where Japanese investment is still small. At the international level Japan was the first industrialized country to ratify the convention that established the Multilateral Investment Guarantee Agency, created by World Bank members and Switzerland to issue guarantees against noncommercial risks to participants that invest in a member developing nation (see JEI Report No. 22B, June 12, 1987).

Tokyo also has created incentives for firms to export technology to the Third World. For example, 70 percent of a firm's profits on technology exports are excluded from its taxable income. More generally, for technology exports under the Export Insurance Law of 1950, exporting firms can pay an insurance premium to the Ministry of International Trade and Industry; in return, they are protected from the possibility of an importer's default on the contract.

An effective combination of private resources and government initiatives will be difficult to forge, but the idea has much appeal in Tokyo's government circles. Aid policymakers are quick to point out that Japan's huge current account surplus lies in the private sector, while the government has been operating under stringent budget constraints for several years. As a result, policymakers have been searching actively for innovative ways to stimulate public-private cooperation. The most publicized attempt was the 1987 announcement of a $20 billion plan to recycle a part of Japan's current account surplus directly to major debtor countries. Although the plan did not generate as much private participation as government officials had hoped, it was a good high-profile step toward integrating public and private initiatives in the Third World.

What is more important, the plan highlighted Tokyo's conviction that economic aid must be reinforced by private investment and trade if it is to be successful. The private sector's participation is especially crucial if technical assistance is to be effective. Thus, if developing countries continue to demand increasingly sophisticated technologies from aid donors, Tokyo is likely to set up more initiatives that combine government and private-sector resources to address Third World development problems. If such initiatives are successful in transferring appropriate knowledge and skills to LDCs, Tokyo will have gone far in demonstrating its commitment to aid quality as well as aid quantity.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI REPORT

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Uno Addresses Diet

Prime Minister Sosuke Uno, elected June 3 to the top leadership slot by a ruling party divided by a political scandal, had a challenging first week in office. He faced continued opposition party calls for dissolution of the Diet against a backdrop of flagging public support for the ruling Liberal Democratic Party. A June 9 Kyodo wire service poll showed that the LDP's approval rating had plummeted to a record low 31.2 percent. To make matters worse, after less than a week at the helm, Mr. Uno was the target of reports of a sexual liaison with a geisha. The new prime minister has called the allegations, published in early June by the respected Sunday Mainichi magazine, a personal matter, which he preferred not to discuss in public. However, the fact that Mr. Uno apparently could not prevent the story's publication prompts some Japanese political observers to suggest that this episode is further proof that he lacks the influence and political power base to effectively lift the ruling party out of

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Table 1: Japan's Foreign Direct Investment by Country, FY 1984-FY 1988

(in millions of dollars)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	Cumulative March 31, 1989
United States	$3,360	$5,395	$10,165	$14,704	$21,701	$71,860
Canada	184	100	276	653	626	3,231
North America	3,544	5,495	10,441	15,357	22,328	75,091
Indonesia	374	408	250	545	586	9,804
Hong Kong	412	131	502	1,072	1,662	6,167
Singapore	225	339	302	494	747	3,812
Korea	107	134	436	647	483	3,248
China	114	100	226	1,226	296	2,036
Thailand	119	48	124	250	359	1,992
Malaysia	142	79	158	163	387	1,834
Taiwan	65	114	291	367	372	1,791
Philippines	46	61	21	72	134	1,120
Asia	1,628	1,435	2,327	4,868	5,569	32,227
Panama	1,671	1,533	2,401	2,305	1,712	12,858
Brazil	318	314	270	229	510	5,596
Caymans	1	132	930	1,197	2,609	5,085
Bahama	97	298	792	734	737	2,718
Mexico	56	101	226	28	87	1,671
Bermuda	29	148	16	36	337	991
Netherlands Antilles	66	62	66	199	172	747
Peru	6	10	---	1	---	696
Latin America	2,290	2,616	4,737	4,816	6,428	31,617
United Kingdom	318	375	984	2,473	3,956	10,554
Netherlands	452	613	651	829	2,359	5,525
Luxembourg	315	300	1,092	1,764	657	4,729
West Germany	245	172	210	403	409	2,364
France	117	67	152	330	463	1,764
Switzerland	229	60	91	224	454	1,432
Spain	140	91	86	283	161	1,045
Belgium	71	84	50	70	164	1,027
Europe	1,937	1,930	3,469	6,576	9,116	30,164
Australia	105	468	881	1,222	2,413	8,137
Oceania	157	525	992	1,413	2,669	9,315
Liberia	281	159	289	267	648	3,658
Africa	326	172	309	272	653	4,604
Kuwait	55	34	41	54	20	1,383
Iran	0	0	---	---	1	1,005
Middle East	273	45	44	62	259	3,338
Total	10,155	12,217	22,320	33,364	47,022	186,356

Source: Ministry of Finance

Table 2: Japan's Foreign Direct Investment by Sector, FY 1984-FY 1988

(in millions of dollars)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	Cumulative March 31, 1989
Manufacturing Sector	$2,505	$2,352	$3,806	$7,832	$13,805	$49,843
Food Products	118	90	127	328	419	1,965
Textiles	85	28	63	206	317	2,669
Wood and Paper Products	115	15	57	317	604	2,099
Chemicals	223	133	355	910	1,293	6,540
Metals	718	385	328	786	1,367	7,671
Nonelectric Machinery	185	352	626	687	1,432	4,716
Electric Machinery	409	513	987	2,421	3,041	10,196
Transport Equipment	437	627	828	1,473	1,281	6,956
Other	215	208	435	703	4,051	7,031
Nonmanufacturing Sector	7,429	9,536	17,949	25,080	32,634	131,999
Agriculture and Forestry	26	12	15	97	162	1,054
Fisheries	24	42	52	44	94	632
Mining	484	598	669	511	1,013	13,949
Construction	112	94	250	87	309	1,443
Trade and Sales	1,482	1,550	1,861	2,269	3,204	20,011
Banking, Finance and Insurance	2,085	3,805	7,240	10,673	13,104	41,876
Services	681	665	1,560	2,780	3,732	12,759
Transportation	1,651	1,240	1,925	2,145	2,372	12,342
Real Estate	430	1,207	3,997	5,428	8,641	20,599
Other	454	322	379	1,047	3	7,334
Branch Offices	221	329	566	452	584	3,919
Other Transactions*	---	---	---	---	---	595
Total	10,155	12,217	22,320	33,364	47,022	186,356

*Certain overseas real estate transactions have been excluded from Japan's foreign direct investment data since December 1, 1980 because of changes in the Foreign Exchange and Foreign Trade Control Law.

Source: Ministry of Finance

Table 3: Japan's Foreign Direct Investment by Industry and Region, March 31, 1989

(in millions of dollars)

	North America	Latin America	Asia	Middle East	Europe	Africa	Oceania	Total
Manufacturing Sector	$23,944	$5,437	$12,371	$1,273	$4,857	$226	$1,735	$49,843
Food Products	934	223	516	0	171	8	112	1,965
Textiles	493	439	1,380	4	303	39	11	2,669
Wood and Paper Products	1,377	200	389	-	5	0	128	2,099
Chemicals	2,311	590	1,785	1,128	594	20	113	6,540
Metals	2,553	1,933	2,268	66	328	127	395	7,671
Nonelectric Machinery	2,610	378	1,037	11	626	1	54	4,716
Electric Machinery	5,952	491	2,414	14	1,261	7	56	10,196
Transport Equipment	3,030	1,050	1,183	4	913	17	759	6,956
Other	4,684	132	1,399	46	656	7	106	7,031
Nonmanufacturing Sector	49,94[illegible]	26,111	19,269	673	24,098	4,374	7,526	131,999
Agriculture and Forestry	354	190	277	2	7	7	218	1,054
Fisheries	156	146	154	1	7	94	72	632
Mining	1,647	1,557	6,912	393	1,103	579	1,758	13,949
Construction	697	208	355	40	59	22	62	1,443
Trade and Sales	11,693	1,508	1,913	20	3,955	8	914	20,011
Banking, Finance and Insurance	12,370	10,990	2,509	123	14,853	22	1,009	41,876
Services	4,859	931	3,711	5	1,570	697	986	12,759
Transportation	239	9,236	584	2	101	2,079	102	12,342
Real Estate	15,782	142	1,230	-	1,386	69	1,988	20,599
Other	2,152	1,203	1,623	87	1,056	798	415	7,334
Branch Offices	714	45	551	1,389	1,171	1	48	3,919
Other Transactions*	485	23	37	2	38	2	7	595
Total	75,091	31,617	32,227	3,338	30,164	4,604	9,315	186,356

*Certain overseas real estate transactions have been excluded from Japan's foreign direct investment data since December 1, 1980.

Source: Ministry of Finance

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REPORT

NO. 24A June 23, 1989

RESEARCH AND DEVELOPMENT IN JAPAN: 1989 UPDATE

Summary

From an overall standpoint Japan's research and development efforts show great stability. Despite slow economic growth in the 1986-87 period induced by the yen's rapid appreciation against the dollar, aggregate Japanese R&D outlays have climbed. Private-sector R&D continues to dominate overall research outlays, indicating that Japan's research efforts are heavily application-oriented. At the same time, subtle changes are taking place in the composition of Japanese R&D. Restrictive government budgets have forced changes in public-sector R&D priorities. In the private sector the expansion of basic research is increasingly necessary. Finally, numerous domestic and foreign factors are challenging Japan's current approach to research and development.

Overview

Although the latest overall statistics on Japan's R&D spending are complete only through the year ending March 31, 1988, points of interest still can be derived from the data. It should be kept in mind, however, that the data (especially from private firms) are developed through a voluntary survey by the Science and Technology Agency and may not be entirely complete or accurate.

Growth - One immediately obvious point is that the growth of overall R&D spending sagged sharply in FY 1986 and FY 1987 (see Table 1), falling to one-third to one-half the rates of the FY 1983-FY 1985 period. The decline is easily traced to a falloff in business outlays. Rather than leading the R&D expansion as they had in the 1970s and the first half of the 1980s, companies trailed the pack, with spending growth lower than that of total R&D spending. This is true for both the data reflecting which organization performed the work (Table 1a) and the listing of sources of funds (Table 1b). Despite consistent

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Table 1: Japan's R&D Expenditures, FY 1982-FY 1987

(in billions of yen and percent)

a. By Organization

Fiscal Year	Companies	Research Institutions	Universities	Total
1982	Y4,039.0	Y949.3	Y1,540.4	Y6,528.7
Change	11.3%	4.7%	6.6%	9.1%
Share	61.9%	14.5%	23.6%	100.0%
1983	4,560.1	971.0	1,649.6	7,180.8
Change	12.9%	2.3%	7.1%	10.0%
Share	63.5%	13.5%	23.0%	100.0%
1984	5,136.6	1,033.1	1,724.2	7,893.9
Change	12.6%	6.4%	4.5%	9.9%
Share	65.1%	13.1%	21.8%	100.0%
1985	5,939.9	1,160.6	1,789.8	8,890.3
Change	15.6%	12.3%	3.8%	12.6%
Share	66.8%	13.1%	20.1%	100.0%
1986	6,120.2	1,240.2	1,832.6	9,192.9
Change	3.0%	6.9%	2.4%	3.4%
Share	66.6%	13.5%	19.9%	100.0%
1987	6,494.3	1,384.5	1,957.9	9,836.6
Change	6.1%	11.6%	6.8%	7.0%
Share	66.0%	14.1%	19.9%	100.0%

b. By Source

Fiscal Year	Government	Private	Foreign	Total
1982	Y1,666.2	Y4,855.5	Y7.0	Y6,528.7
Change	3.3%	11.3%	14.8%	9.1%
Share	25.5%	74.4%	0.1%	100.0%
1983	1,721.4	5,451.1	8.2	7,180.8
Change	3.3%	12.3%	17.1%	10.0%
Share	24.0%	75.9%	0.1%	100.0%
1984	1,777.8	6,108.6	7.6	7,893.9
Change	3.2%	12.1%	-7.3%	9.9%
Share	22.5%	77.4%	0.1%	100.0%
1985	1,867.3	7,014.9	8.1	8,890.3
Change	5.0%	14.8%	6.6%	12.6%
Share	21.0%	78.9%	0.1%	100.0%
1986	1,955.3	7,229.7	7.9	9,192.9
Change	4.7%	3.1%	-2.5%	3.4%
Share	21.5%	78.4%	0.1%	100.0%
1987	2,111.8	7,716.6	8.2	9,836.6
Change	8.0%	6.7%	3.8%	7.0%
Share	21.5%	78.4%	0.1%	100.0%

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

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Japanese corporate rhetoric that R&D is akin to a sacred cow, the data show that Japanese firms put restraints on research budgets as part of their efforts to adjust to the rapid appreciation of the yen against other major currencies. It is important to note, however, that while growth slowed it did not stop.

As for government R&D funding and expenditures by universities and research institutions, the patterns are less evident. Restrained by an austere fiscal policy, the growth of government R&D funds lagged well behind the overall pace from between FY 1983 and FY 1985 (Table 1b). In the last two accounting years, however, the government has been more generous, showing the largest percentage gains of the three sources. It appears that research institutions gained favor in the mid-1980s as an outlet for R&D expenditures (Table 1a), showing growth rates in the latter years well above the overall figures.

Distribution - Despite data showing dwindling growth rates, the Japanese private sector still is the dominant actor in Japanese R&D activities, providing 78.4 percent and spending 66 percent of all research monies. Not surprisingly, this results in a strong commercial bias in Japanese research programs -- one factor behind Japan's high international competitiveness in a broad number of industries. According to STA, 86.6 percent of Japan's total R&D spending in FY 1987 was devoted to application or developmental purposes (see Table 2).

Table 2: Japan's Research Expenditures by Purpose, FY 1982-FY 1987

(in billions of yen and percentage share)

Fiscal Year	Basic Research	Applied Research	Developmental Research
1982	Y815.7	Y1,498.9	Y3,480.5
	14.1%	25.9%	60.1%
1983	896.7	1,630.1	3,882.8
	14.0%	25.4%	60.6%
1984	959.9	1,780.8	4,340.2
	13.6%	25.1%	61.3%
1985	1,030.6	2,001.8	4,985.9
	12.9%	25.0%	62.2%
1986	1,102.8	2,030.8	5,185.0
	13.3%	24.4%	62.3%
1987	1,250.2	2,166.8	5,497.3
	14.0%	24.3%	62.3%

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

The role of foreigners in Japan's R&D environment remains small. Moreover, foreign R&D funds have not grown in step with domestic monies. In fact, the level of spending at the end of FY 1987 had just managed to equal FY 1983's mark. The yen's appreciation possibly accounted for part of the stagnation, but lack of foreign interest in Japanese R&D probably is the major reason. Only since 1988 have greater numbers of foreign firms actively begun to establish R&D facilities in Japan -- moves that will not show up in STA's reports until 1990 at the earliest.

Government Spending

Tokyo's role in Japanese R&D continues to be controversial. While the government's absolute R&D spending forms a minority of total outlays, some foreign observers argue that government programs provide strong guidance to the private sector as to what areas of research to stress. Others counter that Tokyo's role has been less of a factor than the strong competitive dynamic that has driven Japanese firms to become world-class competitors in a broad range of industries. The truth, as usual, lies somewhere in between. In certain industries, such as semiconductors, government R&D programs have helped raise the level of the domestic industry's technology. In other industries, such as motor vehicles, Tokyo has had almost no hand in technological advancement. The debate over Tokyo's R&D role will be explored in greater depth later in this report, but first, a review of the hard figures is in order.

Outlays for research and development gradually are taking a bigger piece of the budget pie. Although R&D expenditures as a percentage of total general account expenditures appear stable, their share of discretionary spending generally has crept upward since FY 1982 (see Table 3). The austere fiscal policy

Table 3: Japanese Government Research Expenditures as a Share of the General Account Budget, FY 1982-FY 1989

(revised budgets in billions of yen and percent)

a. As a Share of Total Expenditures

Fiscal Year	Total Expenditures	Research Expenditures	Share
1982	Y47,562.1	Y1,448.0	3.0%
1983	50,839.4	1,448.9	2.8
1984	51,513.4	1,477.6	2.9
1985	53,222.9	1,521.6	2.9
1986	53,824.8	1,599.0	2.9
1987	58,241.2	1,655.0	2.8
1988	61,851.7	1,715.7	2.8
1989*	60,414.2	1,814.8	3.0

b. As a Share of Discretionary Expenditures

Fiscal Year	Total Expenditures	Research Expenditures	Share
1982	Y33,120.0	Y1,448.0	4.4%
1983	35,356.8	1,448.9	4.1
1984	33,244.5	1,477.6	4.4
1985	33,352.3	1,521.6	4.6
1986	33,425.7	1,599.0	4.8
1987	35,276.5	1,655.0	4.7
1988	37,308.5	1,715.7	4.6
1989*	35,380.5	1,814.8	5.1

*Initial budget.

Source: Ministry of Finance

adopted during Prime Minister Yasuhiro Nakasone's tenure affected even this area, which is viewed as a top national priority. The apparent easing of fiscal restraint in the current fiscal year is clear from the sharp jump in R&D's share of discretionary outlays. One year's figures, however, do not constitute a trend. With concern over the government's long-term fiscal health still strong, a return to a tight budget policy is a distinct possibility.

An interesting trend in government spending is visible, particularly at the first level of disaggregation. STA breaks total R&D spending into three

Table 4: Japanese Government R&D Expenditures, FY 1988

(in millions of yen and percentage change)

	Science Promotion	Energy Research	Other Research	Special Research	Total
Diet	Y517 -1.4%	Y0 --	Y0 --	Y0 --	Y517 -1.4%
Japan Technology Council	0 --	0 --	903 5.5%	0 --	903 5.5%
Police Agency	972 5.1%	0 --	0 --	0 --	972 5.1%
Hokkaido Development Agency	143 0.1%	0 --	0 --	0 --	143 0.1%
Defense Agency	0 --	0 --	82,700 11.6%	0 --	82,700 11.6%
Economic Planning Agency	716 0.9%	0 --	0 --	0 --	716 0.9%
Science and Technology Agency	170,978 6.4%	159,766 -2.6%	9,667 -49.7%	90,545 7.2%	430,955 1.3%
Environment Agency	7,752 -2.1%	0 --	0 --	0 --	7,752 -2.1%
Land Agency	105 -34.1%	0 --	0 --	0 --	105 -34.1%
Justice Ministry	849 5.4%	0 --	0 --	0 --	849 5.4%
Foreign Ministry	0 --	2,655 4.9%	3,762 -0.1%	0 --	6,417 1.9%
Finance Ministry	337 0.8%	0 --	0 --	641 -4.9%	978 -3.0%
Education Ministry	63,757 6.7%	0 --	127,416 1.0%	621,781 4.6%	812,954 4.2%
Health Ministry	32,319 8.1%	0 --	1,128 -7.9%	10,612 22.7%	44,059 10.8%
Agriculture Ministry	61,195 0.2%	0 --	1,847 -0.2%	3,600 -5.3%	66,642 -0.2%
International Trade and Industry Ministry	54,652 0.2%	2,260 -18.4%	11,471 -0.9%	152,843 0.2%	221,226 -0.1%
Transportation Ministry	12,461 -2.3%	0 --	1,250 65.9%	916 -8.8%	14,627 0.8%
Posts and Telecommunications Ministry	4,169 3.3%	0 --	110 2,123.0%	26,000 4.0%	30,279 4.3%
Labor Ministry	601 -0.1%	0 --	0.7 0.0%	3,106 2.4%	3,708 2.0%
Construction Ministry	5,206 1.1%	0 --	254 -28.9%	0 --	5,459 -0.8%
Home Affairs Ministry	543 1.4%	0 --	0 --	0 --	543 1.4%
Total	417,272 4.2%	164,680 -2.7%	240,509 4.7%	884,044 3.3%	1,706,504 3.1%

Source: Japan Society for the Promotion of Science, Japanese Scientific Monthly, June 1988.

broad categories: science and technology promotion, which includes the budgets of the numerous national research institutions, advisory bodies and promotional organizations; other research, which covers energy conservation work, educational support programs, international cooperation projects and small business programs; and special research, which provides for special university research, alternative energy development and goal-specific research. Over the past six fiscal years, the allotments among the three categories have tilted steadily toward special research at the expense of other research (see Tables 4 and 5). Because each category is so broad, however, it is difficult to derive anything meaningful from the shift.

Table 5: Japanese Government R&D Expenditures, Planned FY 1989

(in millions of yen and percentage change)

	Science Promotion	Energy and Other Research	Special Research	Total
Diet	Y533 3.0%	Y0 --	Y0 --	Y533 3.0%
Japan Technology Council	0 --	867 -4.0%	0 --	867 -4.0%
Police Agency	1,020 4.9%	0 --	0 --	1,020 4.9%
Hokkaido Development Agency	147 3.1%	0 --	0 --	147 3.1%
Defense Agency	0 --	93,068 12.5%	0 --	93,068 12.5%
Economic Planning Agency	764 6.7%	0 --	0 --	764 6.7%
Science and Technology Agency	189,400 10.8%	166,043 -2.0%	111,181 11.4%	466,623 6.0%
Environment Agency	7,882 1.7%	0 --	0 --	7,882 1.7%
Justice Ministry	871 2.6%	0 --	0 --	871 2.6%
Foreign Ministry	0 --	6,408 -0.1%	0 --	6,408 -0.1%
Finance Ministry	348 3.3%	0 --	738 15.2%	1,087 11.1%
Education Ministry	68,439 7.3%	128,366 0.7%	657,517 5.7%	854,322 5.1%
Health Ministry	36,371 12.5%	1,161 2.9%	10,838 2.1%	48,370 9.8%
Agriculture Ministry	62,350 1.9%	1,929 4.5%	3,400 -5.6%	67,679 1.6%
International Trade and Industry Ministry	55,799 2.1%	13,628 -0.7%	164,213 7.4%	233,640 5.6%
Transportation Ministry	13,255 6.4%	2,162 73.0%	913 -0.3%	16,300 11.4%
Posts and Telecommunications Ministry	4,341 4.1%	105 -6.8%	26,000 0.0%	30,447 0.5%
Labor Ministry	612 1.8%	1.0 0.0%	3,945 27.0%	4,557 22.9%
Construction Ministry	5,376 3.3%	313 23.3%	0 --	5,689 4.2%
Home Affairs Ministry	555 2.2%	0 --	0 --	555 2.2%
Total	448,032 7.4%	414,049 2.2%	952,745 6.7%	1,814,827 5.8%

Source: Science and Technology Agency

A detailed examination of expenditure growth rates by field is more revealing (see Table 6). Most categories show no clear spending pattern. Space development and energy programs, both declared priorities, have undergone swings. The two items with the clearest trends are defense research and large-scale industrial technology programs. The Japan Defense Agency's allocation has enjoyed growth rates well above both total R&D spending and total general account budget growth. Clearly Tokyo's commitment to greater defense spending includes defense-related R&D. Just as evident is Tokyo's move away from its support of large-scale industrial technology, which has been devoted to basic industries such as shipbuilding and steelmaking.

Table 6: Growth of Japanese Government Research Expenditures by Selected Field, FY 1983-FY 1988

(in percent)

Fiscal Year	Space Development	Energy Programs	Japan Defense Agency	Large-Scale Industrial Technology
1983	3.6%	-2.8%	8.1%	-7.9%
1984	-0.2	-5.5	13.6	-16.2
1985	2.4	6.6	31.5	-16.9
1986	0.8	0.6	12.7	-31.9
1987	3.1	-2.5	12.1	-15.2
1988	-5.4	-2.7	11.6	-48.4

Source: Science and Technology Agency and Japan Society for the Promotion of Science

A perusal of spending on selected R&D programs by agency supports these general observations and reveals still other details (see Table 7). Perhaps the most surprising feature is the cutback of most nuclear energy-related programs. With many of Japan's experimental nuclear reactors nearing activation, cuts in the budgets of the Japan Nuclear Development Research Institute and the Japan Reactor Development Center are curious. While figures on government research outlays are interesting, keep in mind that the ministries and agencies account for less than one-third of all Japanese R&D; industry is where much of the research, particularly that with commercial consequences, is being done.

Private R&D

STA statistics indicate that individual industries responded differently to the volatile economic conditions of FY 1986 and FY 1987 (see Table 8). Exchange rate shifts, commodity price swings and corporate rationalization programs inevitably affected R&D programs. While the average growth of corporate R&D was 12.6 percent in FY 1984 and 15.6 percent in FY 1985 (see JEI Report No. 43A, November 17, 1987), it was only 3 percent in FY 1986 and 6.1 percent in FY 1987. Certain industries slashed R&D budgets in response to tougher times: precision machinery makers cut their research outlays by 1.3 percent in FY 1986 in sharp contrast to the 20.5 percent expansion the previous period; expenditures by nonelectric machinery makers went from a 13.4 percent expansion in FY 1985 to a 0.9 percent contraction in FY 1986.

Table 7: Expenditures on Selected Science Programs by Agency, FY 1988-FY 1989

(in millions of yen)

	FY 1988	FY 1989
Japan Defense Agency		
Technology development	Y81,756	Y92,068
Science and Technology Agency		
Agency research (including four air and space development organizations)	28,473	31,753
Physical Chemistry Research Institute	16,034	16,056
New Technology Development Association	2,061	1,850
Science and technology promotion survey	5,561	6,944
Space Development Association	96,534	106,757
Ocean development research	9,472	10,675
Ocean Science and Technology Center	9,277	10,359
Japan Nuclear Development Research Institute	97,310	94,845
Japan Reactor Development Center	62,279	61,217
National Nuclear Research Laboratory	1,815	2,043
Research management costs	9,667	9,867
Environment Agency		
National Disaster Research Institute	4,022	4,134
National Water-borne Disease Center	418	421
National Disaster Prevention Institute	2,344	2,283
Disaster prevention survey	819	869
Foreign Ministry		
International Atomic Energy Commission	2,655	2,616
OECD Nuclear Power Committee	211	191
Finance Ministry		
Brewing Research Institute	337	348
Education Ministry		
Ministry research (including six education centers)	6,735	6,840
Research grants	48,880	52,600
Japan Technology Promotion Council grants	4,768	5,568
Health Ministry		
Agency research (including seven population research projects)	9,819	10,266
Research grants	15,455	17,825
Radiation effects research	2,061	2,249
Health science research	4,410	5,464
Cancer research projects	1,638	1,639
International cancer research	115	129
Medical and drug information system	223	212
Agriculture Ministry		
Agency research laboratories (including 18 agricultural research centers)	44,939	45,458
Agricultural technology development	9,417	9,787
Large-scale projects	1,245	1,300
Biotechnology development	1,445	1,509
Research machinery and equipment	1,962	2,021
Agricultural technology promotion	2,139	2,203
Agricultural machinery research	815	844
Red tide research	222	288
Food product technology	529	518
International Trade and Industry Ministry		
Agency research (including 15 research centers)	25,841	26,343
Large-scale industrial technology projects	2,344	1,001
Computer industry promotion projects	3,800	3,722
Next-generation basic technology projects	2,980	1,188
New energy technology projects	1,589	1,201
Energy conservation projects	671	547
International aircraft development	4,417	4,190
Small business technology improvement	1,717	1,630
Transportation Ministry		
Agency research (including four ship technology centers)	7,153	7,369
Geostationary weather satellite management	2,251	2,251
Geostationary weather satellite launches	2,915	3,481
Magnetic levitation train technology	779	900
Posts and Telecommunications Ministry		
Electrotechnical laboratories	4,169	4,341
Construction Ministry		
Agency research (including one engineering center)	4,524	4,654

Source: Science and Technology Agency

Table 8: Japan's R&D Expenditures by Industry, FY 1986-FY 1987

(in billions of yen and percentage change)

	FY 1986		FY 1987	
	Total	Change	Total	Change
Agriculture	Y4.3	-3.2%	Y5.8	33.0%
Mining	21.7	-0.4	19.5	-9.8
Construction	121.1	9.3	128.3	5.9
Manufacturing	5,739.6	3.5	6,101.2	6.3
Food Products	147.2	10.3	179.1	21.7
Textiles	62.7	0.2	66.5	6.0
Pulp and Paper	33.9	4.7	33.5	-1.3
Publishing and Printing	16.4	-10.9	21.7	32.0
Chemicals	983.6	5.0	1,095.9	11.4
Industrial Chemicals and Synthetic Fibers	409.0	8.3	452.5	10.6
Oils and Paints	97.9	9.7	111.4	13.9
Pharmaceuticals	342.0	0.0	380.7	11.3
Other	134.8	5.7	151.2	12.2
Petroleum and Coal Products	68.6	0.5	70.2	2.3
Plastic Products	70.0	6.7	85.9	22.8
Rubber Products	80.2	0.5	85.2	6.2
Nonmetallic Mineral Products	187.6	7.7	177.9	-5.2
Steel	255.3	6.2	245.2	-4.0
Nonferrous Metals	110.2	9.6	104.4	-5.2
Fabricated Metal Products	94.7	-7.8	94.8	0.2
Nonelectric Machinery	379.1	-0.9	418.8	10.5
Electric Machinery	1,980.0	2.2	2,163.5	9.3
Communications and Electronics Equipment	1,360.4	2.9	1,497.8	10.1
Other	619.6	0.5	665.7	7.4
Transportation Equipment	989.8	5.8	969.6	-2.0
Motor Vehicles	840.4	5.4	814.8	-3.1
Other	149.4	7.9	154.8	3.7
Precision Machinery	199.2	-1.3	204.2	2.5
Other	81.2	14.9	84.9	4.6
Transportation, Communications and Utilities	233.5	-10.0	239.4	2.6
Total	6,120.2	3.0	6,494.3	6.1

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

By FY 1987, however, the recovery already was evident in some industries. Producers of communications and electronic equipment, for example, more than tripled the rate of research spending compared with the previous year. Particularly notable were the big increases in the agricultural sector, publishing and printing, the food products industry and the plastics industry. Equally interesting is the contraction of research outlays by the motor vehicle industry.

While the previous statistics appear to call into question the absolute devotion by Japanese firms to steady, long-term research and development spending, corporate R&D expenditures as a percentage of gross sales soundly support this contention (see Table 9). In FY 1984 the average ratio of R&D outlays to gross sales for Japanese industry was 1.99 percent; the comparable FY 1985 figure was 2.31. In FY 1986, when the business sector felt the brunt of the yen's appreciation, the R&D/sales ratio actually rose to 2.57 percent. By this criterion, the recovery of FY 1987 was less spectacular, with the industry average rising only 0.02 percentage point.

Table 9: Japan's Ratio of Corporate R&D Expenditures to Gross Sales by Industry, FY 1986-FY 1987

(in percent)

Industry	FY 1986	FY 1987
Agriculture	0.24%	0.31%
Mining	1.16	1.01
Construction	0.55	0.51
Manufacturing	3.03	3.14
Food Products	0.85	0.99
Textiles	1.23	1.42
Pulp and Paper	0.80	0.77
Publishing and Printing	0.64	0.80
Chemicals	4.31	4.53
Industrial Chemicals and Synthetic Fibers	3.56	3.76
Oils and Paints	3.42	3.85
Pharmaceuticals	6.89	6.96
Other	3.87	4.00
Petroleum and Coal Products	0.62	0.64
Plastic Products	2.09	2.16
Rubber Products	2.92	3.25
Nonmetallic Mineral Products	2.87	2.82
Steel	2.54	2.40
Nonferrous Metals	2.11	1.90
Fabricated Metal Products	1.22	1.50
Nonelectric Machinery	2.77	2.99
Electric Machinery	5.50	5.61
Communications and Electronics Equipment	5.63	5.78
Other	5.23	5.26
Transportation Equipment	3.21	3.22
Motor Vehicles	3.20	3.17
Other	3.28	3.45
Precision Machinery	4.59	4.91
Other	1.07	1.12
Transportation, Communications and Utilities	0.96	0.84
All Industry Average	2.57	2.59

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

It is easy to judge the relative technology intensity of various Japanese industries from Table 9. Industries such as pharmaceuticals (6.96 percent), electric and electronic machinery (5.61 percent), precision machinery (4.91 percent) and chemicals (4.53 percent) unsurprisingly led the way in FY 1987. What is interesting is that a number of "mature" industries, such as steel, are not at the bottom of the ranking. Steelmakers, in particular, have tried to increase their research efforts in the past few years in their efforts to diversify and restructure.

The steady research efforts of Japanese industry have paid off handsomely in a broad range of industries. Outside observers, especially in the United States, are highly impressed with Japan's technology base (see JEI Report No. 12B, March 24, 1989), even if domestic scientists downplay their own technical prowess. Admiration overseas is so great that it has become tinged with a fear that Japan will dominate critical technologies within a few years. The developing world as well praises Japanese technological advances and hopes that Japan will provide not only increased monetary support for global development but a key to its treasure trove of technology as well. The latest statistics from STA show that while Japan is still a technology sponge, the balance between technology imports and exports is not as skewed as it once was.

Japan's Technology Trade

Just as with trade in goods, Japanese companies must report technology licensing contracts to the government. According to the latest STA figures, Japan continues to run a deficit with foreigners in terms of the overall number of contracts and their total value (see Tables 10 and 11). It is difficult to say that Japan's technology trade is moving toward balance. While the overall deficit fell to just Y3.9 billion ($27.9 million at Y140=$1.00) in FY 1984, it has swung back and forth since then, reaching Y79.3 billion ($566.4 million) in FY 1987. In terms of the number of contracts, however, Japan continues to narrow the deficit, from 3,145 cases in FY 1980 to 576 in FY 1987.

Of greater interest is the balance of new contracts made each year. In this respect Japan has been a net contributor of technology since a breakout was provided in FY 1975, both in terms of quantity and value. This trend ended in FY 1987, however, when the value of new technology imports surpassed that of exports by Y11.4 billion ($81.4 million). Given a history of wide swings in the number of cases and their value, it is unclear if this represents a new trend or simply an aberration.

A review of corporate technology trade by industry reveals centers of activity (see Table 12). Not surprisingly, manufacturing accounts for the vast bulk of all activity, with the chemical and the electric machinery industries at the forefront. Again indicating strenuous efforts to diversify, the steel industry is fourth in terms of activity. The electronics and the nonelectric machinery industries are primarily responsible for the jump in activity between FY 1986 and FY 1987, as the former saw both exports and imports fall and the latter experienced mixed results.

By region (see Table 13) Japan's corporate technology trade presents an unsurprising picture. The developing areas of the world are the recipient of the largest share of know-how exports, while North America and Europe provide nearly all of Japan's imports. It is interesting to note patterns of change,

Table 10: Japan's Technology Imports, FY 1950-FY 1987

(number of approved cases and value in billions of yen)

	Cases		Value	
	Total	Of Which New:	Total	Of Which New:
FY 1950-FY1955	1,148	n.a.	Y24.9	n.a.
FY 1960	588	n.a.	34.2	n.a.
FY 1965	958	n.a.	60.1	n.a.
FY 1970	1,768	n.a.	155.9	n.a.
FY 1975	6,766	796	169.1	Y13.3
FY 1976	6,050	632	177.3	17.9
FY 1977	6,659	685	190.1	16.9
FY 1978	6,573	936	192.1	38.2
FY 1979	7,012	1,020	241.0	26.8
FY 1980	7,248	919	239.5	27.7
FY 1981	7,207	844	259.6	24.9
FY 1982	6,936	929	282.6	44.4
FY 1983	7,839	1,073	279.3	42.4
FY 1984	7,316	982	281.4	31.8
FY 1985	7,679	1,245	293.2	33.3
FY 1986	8,635	1,141	294.2	33.6
FY 1987	8,186	813	339.4	56.2

Table 11: Japan's Technology Exports, FY 1950-FY 1987

(number of approved cases and value in billions of yen)

	Cases		Value	
	Total	Of Which New:	Total	Of Which New:
FY 1950-FY1955	n.a.	n.a.	Y0.3	n.a.
FY 1960	n.a.	n.a.	0.8	n.a.
FY 1965	n.a.	n.a.	6.1	n.a.
FY 1970	861	n.a.	21.2	n.a.
FY 1975	2,811	1,073	66.6	Y18.9
FY 1976	2,767	775	83.4	27.0
FY 1977	2,880	897	93.3	36.3
FY 1978	3,157	1,063	122.0	47.1
FY 1979	3,667	1,087	133.1	52.1
FY 1980	4,103	1,237	159.6	74.3
FY 1981	4,877	2,017	175.1	70.8
FY 1982	4,738	1,970	184.9	63.3
FY 1983	6,403	2,494	240.9	74.9
FY 1984	5,426	1,824	277.5	90.9
FY 1985	5,885	2,099	234.2	73.3
FY 1986	7,199	1,730	275.9	51.8
FY 1987	7,610	1,655	260.1	44.8

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

Table 12: Japan's Corporate Technology Trade by Industry, FY 1986-FY 1987

(number of cases and value in billions of yen)

	FY 1986				FY 1987			
	Exports		Imports		Exports		Imports	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value
Total	5,469	Y224.1	7,494	Y260.6	5,955	Y215.6	7,373	Y283.2
Agriculture	7	0.1	0	0.0	5	0.1	4	0.0
Mining	12	0.3	17	0.2	12	1.0	41	0.2
Construction	288	20.8	210	1.8	229	12.8	151	0.9
Manufacturing	5,136	193.5	7,261	258.4	5,681	200.8	7,155	281.0
Food Products	106	4.9	87	10.8	96	5.0	103	9.8
Textiles	182	4.6	123	3.2	228	4.4	123	3.7
Pulp and Paper	39	0.5	37	0.9	30	0.4	35	0.5
Publishing	24	0.2	43	0.3	15	0.1	52	0.6
Chemicals	941	38.2	955	40.6	1,161	39.3	898	40.6
Synthetic Fibers	411	15.3	437	14.9	497	18.9	439	14.9
Fertilizers	202	2.3	129	3.4	234	3.0	131	3.7
Pharmaceuticals	244	17.3	278	12.6	285	16.1	210	13.6
Other	84	3.4	111	9.6	145	1.3	118	8.4
Petroleum and Coal Products	9	0.1	88	3.1	11	0.3	97	3.5
Plastic Products	68	1.3	74	1.0	81	1.3	77	0.9
Rubber Products	69	2.2	101	5.4	72	3.1	92	3.3
Nonmetallic Mineral Products	204	5.5	144	6.6	210	6.2	158	6.6
Steel	461	21.5	301	5.8	373	10.0	410	8.0
Nonferrous Metals	162	3.6	183	4.2	173	2.6	201	10.7
Fabricated Metal Products	162	1.5	198	3.1	170	1.3	238	2.9
Nonelectric Machinery	420	6.8	1,064	25.4	665	8.7	998	21.3
Electric Machinery	1,366	53.0	2,505	91.3	1,415	61.1	2,422	109.5
Machine Tools	436	16.9	354	30.4	598	21.3	441	34.[illegible]
Electronics	930	36.1	2,151	60.8	817	39.8	1,981	75.0
Transportation Equipment	727	43.8	963	49.0	688	49.2	876	48.8
Motor Vehicles	502	40.2	346	11.3	444	46.0	296	8.4
Other	225	3.6	617	37.8	244	3.2	580	40.4
Precision Machinery	88	1.9	238	4.2	124	2.9	249	6.7
Other	108	3.7	157	3.6	169	4.7	126	3.8
Transportation, Communications and Utilities	26	9.4	6	0.2	28	0.9	22	0.8

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

Table 13: Japan's Corporate Technology Trade by Country, FY 1984-FY 1987

(number of cases and value in billions of yen)

a. Exports

	FY 1984		FY 1985		FY 1986		FY 1987	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value
Asia	2,549	Y112.5	3,047	Y87.5	2,748	Y86.5	3,152	Y86.4
China	406	43.1	417	26.4	454	19.7	405	9.4
Taiwan	512	10.0	559	7.9	532	8.5	590	12.3
South Korea	598	14.9	798	18.2	732	21.1	816	27.5
Thailand	218	8.3	214	6.2	203	5.4	294	7.3
Philippines	111	0.6	320	4.4	89	0.6	133	2.0
Indonesia	228	13.6	174	5.2	196	4.4	182	3.2
Malaysia	119	5.0	320	4.4	128	3.2	147	3.1
West Asia	386	30.8	167	14.1	94	10.5	52	1.6
North America	944	71.9	1,058	58.7	1,006	62.3	1,058	72.5
United States	751	65.9	896	51.8	869	57.7	912	65.9
South America	199	3.7	243	8.7	216	5.2	198	4.5
Brazil	107	1.9	133	3.3	127	3.8	107	2.5
Europe	993	40.7	1,072	45.5	1,040	43.6	1,184	40.3
Great Britain	168	6.8	183	5.3	161	7.6	190	10.6
West Germany	217	4.7	253	11.3	247	7.8	297	7.4
France	141	4.6	129	4.8	145	5.9	162	5.2
Netherlands	38	2.1	41	4.8	41	2.5	53	2.1
Switzerland	42	4.9	44	3.3	53	3.8	52	2.3
Africa	222	12.8	135	6.6	189	9.5	147	5.0
Oceania	133	5.1	163	13.0	176	6.6	164	5.3
Australia	n.a.	n.a.	124	11.9	139	5.8	116	4.2

b. Imports

	FY 1984		FY 1985		FY 1986		FY 1987	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value
Asia	63	Y0.3	169	Y0.9	15	Y0.3	12	Y0.1
China	2	0.1	114	0.7	4	*	2	*
Taiwan	51	0.1	[illegible]	*	0	0.0	2	*
South Korea	8	0.1	52	0.0	4	*	4	*
West Asia	2	*	2	*	94	10.5	2	*
North America	4,437	194.0	4,814	210.3	4,926	174.6	4,747	179.3
United States	4,335	193.0	4,772	208.6	4,825	173.8	1,667	178.6
South America	26	0.0	1	*	4	*	3	*
Europe	2,750	86.7	2,664	81.6	2,516	85.1	2,568	103.4
West Germany	975	17.8	859	17.6	903	20.7	847	21.4
Great Britain	429	13.2	566	14.6	477	13.0	512	10.3
France	374	10.4	285	6.8	298	7.3	313	22.1
Switzerland	269	16.0	319	16.3	241	17.5	273	17.4
Netherlands	156	14.1	156	15.5	163	15.6	173	20.8
Africa	5	0.0	1	*	3	*	3	*
Oceania	33	0.3	28	0.3	28	0.4	38	0.3

*Less than Y50 million.

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

however. The number of technology export cases to the United States has grown significantly since FY 1984 even if the value has not. Exports to Europe, on the other hand, had retreated in FY 1987 from the high in FY 1985, actually falling below the FY 1984 level in value terms. The area of most activity is clearly Japanese exports to Asia, although even here the value lately has been stagnant. Exchanges with West Asia (a pseudonym for the Soviet Union and Eastern Europe) show a sharp decline in both quantity and value terms.

As for particular countries, it is clear that the transfer of Japanese technology to the rapidly developing economies of South Korea, Taiwan and Thailand is on the increase. Dealings with Africa and South America, in contrast, show either a decline or stagnation. There obviously is room for Japan to broaden the scope of its technology transfers. (For a related look at technology transfers, see JEI Report No. 22A, June 9, 1989.) The challenge of becoming a technology font for the world is only one of several facing Japan's research community.

Challenges Facing Japanese R&D

While Japan's R&D picture may be rosy at the moment, forces that could compel fundamental changes are building. As Japan has found in industrial and financial arenas, policies that have served the country so well in the postwar era may be out of step with current economic realities.

Basic versus applied technology - Japan has focused its energies since 1950 on catching up with technologically advanced countries with such success that it finds itself at the forefront of several fields. Policies, organizations and attitudes that helped Japan to find, adopt and improve foreign technology are not necessarily suited to developing new technology from scratch. Tokyo has been urging corporations to increase funding for basic research for several years, but the results have been modest. Referring back to Table 2, it is clear that the share of total R&D funds devoted to basic research has not changed significantly since FY 1982. Broken down by which organization performed the work, industry appears to be devoting a greater share of resources to basic research, if at a snail's pace (see Table 14). Tokyo is in no position to criticize the private sector on this account. While the government is sponsoring some highly acclaimed groundbreaking research -- such as the Exploratory Research for Advanced Technology (ERATO) program -- such projects are few and far between.

As is the case in the United States, universities are the center of basic research activities. Tokyo has been encouraging ties between private firms and universities for several years. Its latest effort is to encourage existing academic institutions around the country to specialize in a particular technology. Private firms interested in particular technologies then would be drawn to set up research facilities nearby, forming "research cores" all around Japan. The program relies heavily on universities to act as a source of innovative research, but the organization of university science departments is so rigid it often stifles creativity. Without educational reform, Japanese universities may not be able to meet the expected goals.

Equally fundamental is the difficulty of reorienting private R&D efforts toward basic research. Japanese management has a reputation for taking a long-term approach to business strategy, but the stagnant share of basic research

Table 14: Japan's Research Expenditures by Performance Organization by Purpose, FY 1983-FY 1987

(share of each organization's total expenditures in percent)

Fiscal Year	Basic Research	Applied Research	Developmental Research
1983			
Universities	57.4%	35.0%	7.6%
Research Institutions	13.2	33.2	53.6
Companies	5.2	21.8	73.0
1984			
Universities	54.9	36.9	8.3
Research Institutions	12.6	30.9	56.5
Companies	5.7	22.0	72.3
1985			
Universities	54.2	37.4	8.4
Research Institutions	12.3	30.0	57.7
Companies	5.9	21.9	72.1
1986			
Universities	54.2	37.4	8.4
Research Institutions	13.8	27.4	58.8
Companies	6.1	21.6	72.3
1987			
Universities	54.2	37.4	8.4
Research Institutions	15.8	26.0	58.2
Companies	6.6	24.7	71.7

Source: Management and Coordination Agency, Report on the Survey of Research and Development.

reveals their true attitude toward this field. Tokyo, however, has yet to roll out the heavy guns, such as tax incentives, in this campaign. Nevertheless, it is clear that Japan will remain dependent on access to the vast amount of basic research performed in the United States and Europe for some years to come. This "free ride" on U.S. government-supported basic R&D has generated another challenge facing Japan's R&D establishment.

Technonationalism - For decades the United States has welcomed foreign students to its universities both to learn and to contribute to the world's storehouse of scientific knowledge. As U.S. dominance has been challenged over a broad range of important commercial sectors, such as consumer electronics, integrated circuits, high technology materials and computers, there has been a growing chorus of complaints that Washington's support for basic R&D primarily is helping U.S. competitors. The United States is concerned particularly that losing its technology lead will have severe consequences for its ability to defend its own and the free world's security. The result of these fears is growing support for technological nationalism (see JEI Report No. 24A, June 24, 1988).

It is easily arguable that Japan has practiced technonationalism for many years: government-funded programs were open only to domestic firms;

government-held patents could be licensed only to domestic companies; few provisions were made for supporting foreign researchers in Japanese universities and research institutions; and the results of Japanese research were not widely available to foreigners (mainly due to a lack of translation capacity). When Japan was perceived abroad as having little to offer technologically, these policies were not an issue. Now that Japan is a technological power, however, these policies have become sources of friction.

To neutralize the trend toward technonationalism in the United States and Europe, Tokyo has been trying to open its R&D establishment as much as possible. Foreign firms are courted actively to join government research projects. A handful of foreign firms have access to government patents. And the number of articles and presentations submitted by Japanese researchers to international journals and meetings is growing quickly. Tokyo and the United States have signed two major technology exchange agreements (one dealing with military technology, the other with general technology) and have inaugurated the Joint High-Level Committee on Science and Technology to smooth out frictions. Tokyo also is trying to integrate its R&D programs with the global research community. This solution to technonationalism, however, presents a significant challenge in and of itself.

Internationalization of Japanese R&D - Tokyo has embarked on a program to internationalize its R&D efforts. This, however, is easier said than done. A case in point is former Prime Minister Nakasone's 1986 announcement of an international program to explore basic human biochemistry. The Human Frontiers program was seen as a 20-year project with up to half of the projected Y1 trillion ($7.1 billion) cost paid by Tokyo. Foreign researchers not only would receive funds and participate in research but would codirect various parts of the program as well. However, until the FY 1989 budget, which allocates Y2.3 billion ($16.4 million) for this purpose, funding has been practically nonexistent. What funds have been appropriated have gone for planning and consultations. The delay has created foreign skepticism about Tokyo's sincerity.

Tokyo has pushed harder, however, to open its national laboratories to foreign researchers. STA announced that it could support as many as 100 foreign researchers in FY 1988. Fewer than 20 Americans applied. The main obstacles usually cited are Japan's high cost of living and the language barrier. American scientists who have gone to Japan, however, say that adjusting to both problems was far easier than they had expected. And, once in Japan, they found the experience very rewarding.

Tokyo also is taking steps on this side of the Pacific to encourage more Americans to take advantage of Japan's research. The National Science Foundation received nearly $5 million from Tokyo to bolster its program to send Americans to Japanese laboratories. Programs such as the Massachusetts Institute of Technology's MIT/Japan Science and Technology Program, which provides Japanese language training and positions in Japanese corporate facilities to American researchers, are lauded by both Tokyo and the private sector.

Japanese corporations also are trying to help. Hitachi, Ltd. initiated a Research Visit program in 1984 to invite foreign researchers to work for a year in its central research laboratory in Tokyo. Hitachi reports that interest in its program is strong, with over 70 applications for 30 positions in FY 1989. Hitachi will accept 35 of the applicants, following a practice of allowing more than the announced number to participate. Such programs, however, still are rare in Japan. And it is access to private Japanese research that most interests the United States.

Economic restructuring - This is a long-term challenge to Japan's high technology machine. While both the government and private industry continually stress the need for the country to maintain a strong manufacturing sector as the backbone of the economy, the greatest growth and innovation is taking place in the service sector. If the manufacturing sector's relative share of the economy continues to shrink, the demand for engineers and scientists also could fall off.

The service sector is likely to draw an ever greater share of the cream of Japan's workforce simply because wages often are higher and prospects for advancement better. Several Japanese publications claim that a majority of engineering and science graduates from Japan's top universities no longer enter the manufacturing sector. They are drawn instead to the high salaries offered by banks and securities companies. As the percentage of Japan's population under 30 years old shrinks in the coming decades, it is unclear if there will be sufficient human resources to keep Japan's R&D machine humming.

For the time being, however, Japan is moving rapidly to a top position in the global technology race. Flush with cash from the economic recovery, Japanese firms and the government will pour ever greater funds and human resources into developing basic as well as applied science.

For further information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JAPAN AND THE URUGUAY ROUND

Summary

The current round of multilateral trade negotiations based on the General Agreement on Tariffs and Trade has passed the midway point. While few substantive agreements have yet been reached, neither have the talks broken down. For those who believe that free trade helps the economies of those countries that permit it, this amounts to at least a mild antidote to the pain of actual and threatened protectionist measures in the current international trading environment. Japan, which by all accounts benefited tremendously from previous GATT negotiations, has an obvious interest in restoring the momentum toward multilateral negotiations and free trade. The United States also would stand to benefit from a successful conclusion of the Uruguay Round. But viewed at this juncture, the ultimate degree of success at the talks remains unclear.

The Goal of Free Trade

In his seminal work more than two centuries ago that virtually launched economics as a profession, Adam Smith posed, then answered, the question of how nations increase their wealth. His answer, in brief: free trade. Mr. Smith believed market forces were equally well-suited to regulating economic activity domestically and internationally. In an international context free trade means that countries refrain from imposing barriers in the form of tariffs or quantitative restrictions on the flow of goods and services across international boundaries.

Mr. Smith's thinking was radical in his time, when mercantilist philosophies of international trade held sway. Two hundred years later the free-trade argument has become the conventional wisdom among economists to a degree little appreciated by practitioners outside the discipline, who accuse economists of not agreeing among themselves on anything.

Some who argue for free trade make the following simple argument. Higher exports clearly benefit an economy. Liberalized trading arrangements that lead to higher exports therefore are beneficial. This line of thinking leaves the impression that higher imports are the relatively low cost a country pays for the benefits of higher exports. This proposition is incorrect. Free trade permits each individual, firm or country to specialize in doing what it does best relative to other potential suppliers of the good or service. In this way individuals generally are able to obtain products and services at the lowest possible cost relative to the effort they have to expend in providing goods and services to the market. On a national level countries benefit more or less equally from imports and import-competing goods that are cheaper than otherwise and exports that, through expanded international trading opportunities, can fetch more than if markets were closed.

An important implication of the argument for free trade is that international trade negotiations are unusual in that a nation benefits from both making concessions on imports and gaining concessions on exports. Hence, if liberalized trade permits a country to specialize and import low-cost products it otherwise would have to produce at home, such a regime should be adopted. Even if its trading partner fails to reciprocate, the scheme probably still is worthwhile for the liberalizing country. This argument has particular relevance for U.S.-Japan trade. If, as some argue, Japan reneges on agreements with the United States to open up trade, this country would lose if it either restores restrictions on trade it had dropped as part of the agreement or imposes new protectionist measures. Similarly, Japan's supposedly different philosophy concerning market principles, as outlined in Clyde V. Prestowitz's book, Trading Places,[1] at most suggests the benefits from liberalizing trade with Japan could be limited, not that the United States would be worse off as a result of negotiations that open its markets to Japanese goods and services.

These arguments suggest that the winners and the losers from free trade are scattered throughout the economy. In the policy debates surrounding trade liberalization, however, two groups appear to predominate: exporting industries and their workers, who favor free trade for obvious reasons, and import-competing industries and their employees, whose opposition is equally predictable. Trade negotiators therefore typically try to push for maximum advantage for their exporters and minimum damage for their import-competing firms for political reasons, even though economically speaking it would make about as much sense to advocate liberalized imports as it does to tout higher exports.

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[1] Clyde V. Prestowitz, Trading Places: How We Allowed Japan to Take the Lead (New York, New York: Basic Books, 1988).

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GATT and Its Alternatives

International agreements to liberalize trade are time-consuming processes; even the simplest negotiations between two countries in a narrow range of goods can take years. Changes in international trade regimes can come about in several ways.

- They can be the result of multilateral negotiations, the most ambitious choice. The best known such process is the General Agreement on Tariffs and Trade. Eight rounds of GATT talks have been held since 1947. The most recently completed, the Tokyo Round, was proposed in 1971, formally began in 1973 and ended in November 1979. The current negotiations, the Uruguay Round, began in late 1986 and are scheduled for completion in 1990. (The two most recent rounds have carried the names of the city or country where they began. Actual negotiations generally occur in Geneva, Switzerland, which also is the location of the GATT Secretariat.) In the early years of GATT the focus was on tariffs and quotas on imports. Now that these impediments to trade largely have been eliminated, recent rounds have focused on other nontariff measures as well as such other barriers as subsidies and rules concerning direct investment.

Seven years elapsed between the end of the Tokyo Round and the beginning of the Uruguay Round and at least four years more will have passed before the current round ends. Some have argued that the protracted nature of the GATT negotiations limits institutional memory of previous rounds. This aspect of the talks often has been cited as a disadvantage to the United States. Turnover among the ranks of U.S. working-level negotiators, if not at the policymaking level, is believed to be higher than in countries like Japan. At the same time, if more liberalized trade is the objective, successful GATT negotiations have the greatest coverage, with more than 90 countries signing on to accords that typically encompass a wide range of traded products.

- International trade negotiations alternatively can take place within a smaller group of nations, often only two. Sometimes these talks cover a broad range of trade-related goods and services. In extreme cases the object of the negotiations is a free-trade area between or among the parties involved. Since the conclusion of the Tokyo Round, the United States has negotiated FTAs with Israel and Canada. Both accords substantially liberalize trade almost across-the-board. To what extent these pacts complement, rather than substitute for GATT arrangements, is a matter of some debate. U.S. officials have argued that they can serve as models for the GATT negotiators and motivate third countries to hop on the free-trade bandwagon. Others contend that they divert negotiating energy away from the GATT process and have economic disadvantages compared to GATT agreements. The chief drawback is that often only two countries are involved, limiting the gains and creating some risk that, compared to a multilateral agreement such as GATT, global commerce will be diverted away from the most efficient international supplier toward a member of the FTA.

A few people, led by former U.S. Ambassador to Japan Mike Mansfield, have called for a U.S.-Japan FTA. While the idea has its supporters on both sides of the Pacific, many feel that the disadvantages -- trade diversion and preemption of the GATT process -- would be especially serious were the "Big Two" to get together in this way. Few expect that an agreement would be possible with Japan anywhere nearly as quickly as the mere two years it took American and Canadian negotiators. (For details see JEI Report No. 44A, November 18, 1988.)

Less ambitious than FTAs are bilateral negotiations over a narrow range of products. The United States and Japan have a variety of negotiating forums. Highly publicized trade agreements in telecommunications equipment and services, semiconductors, beef and oranges and other areas have resulted from such talks. Of course, other countries may not like being left out, especially when Japan and the United States appeared to be arranging the world market to suit themselves. This, for example, was at the heart of Europe's complaint about the U.S.-Japan semiconductor accord, viewed by Europeans as an international cartel under the two economic giants' joint sponsorship. And, of course, the gains are limited compared to GATT agreements or FTAs, while the possibility of trade diversion is substantial. However, many U.S.-Japan accords have resulted in more open markets for all potential exporters to Japan for the products in question.

GATT: A Review

GATT came into being in the immediate postwar period, along with organizations such as the International Monetary Fund and the World Bank. Its existence has coincided with a remarkably high rate of growth of trade and output around the world, with trade growing faster than output (see Table 1). While economic prosperity obviously depends on much more than the international trade regime, there is broad agreement that the successive GATT rounds deserve some of the credit. As one of the fastest growing economies during this time, Japan took full advantage of the relatively liberal existing trade regime to reap the benefits of international specialization. On the export side, shipments grew by leaps and bounds. Imports also expanded, with one result being that Japan's self-sufficiency in food dropped. The reallocation of resources away from Japan's inefficient farms toward its efficient factories was just what the economic textbooks explained would happen in a relatively open trading system.

Table 1: Growth of World Trade and Output

(average annual percentage change)

	1960-1970	1970-1980	1980-1987	1986	1987
Exports					
Agriculture	4%	3%	1%	-1%	5%
Mining	7	1	-1	7	1
Manufacturing	11	7	5	4	5
Total	9	5	3	4	5
Output					
Agriculture	3	2	2	1	-3
Mining	5	3	-1	5	1
Manufacturing	7	5	3	3	5
Total	6	4	3	3	3

Source: General Agreement on Tariffs and Trade

Japan joined GATT in 1955, but the benefits of trade liberalization came slowly. When Japan became a member, European and other nations invoked Article

35 of the general agreement that permits the nonapplication of GATT rules to certain members; the result was to limit Japanese exports to countries that at that time accounted for one-third of world trade. Nor did Japan initially adopt all the provisions of GATT, not accepting Article 11 (the general prohibition of quantitative restrictions) until 1963.

In those days, of course, Japan had a very different relationship with the rest of the world. While the United States and Europe generally regarded Japan as peripheral to the world economy, they did fear Japanese competition in labor-intensive goods, such as textiles. For its part, Japan maintained a web of restrictions on its domestic economy; a free-trade attitude on the international scene would have been surprising given its absence domestically.

The Kennedy Round from 1964 to 1967 ended up being particularly important for Japan and for the world economy. Industrial tariffs were reduced an average of 35 percent in most of Japan's export markets. According to one estimate, the effect of the round was to increase Japanese exports 24 percent and imports 8.5 percent.[2]

Japan's support for the GATT process has increased with progressive rounds. At first its enthusiasm for the Kennedy Round was lukewarm, probably a a result of the GATT-inconsistent provisions it still maintained. In addition, at the time it reportedly was considering raising tariffs on some agricultural and manufactured goods in anticipation of reduced foreign exchange controls. In the late stages of the Kennedy Round, however, its enthusiasm increased as its balance of payments position improved.[3]

The Tokyo Round was proposed in 1971. Negotiations did not begin until the United States passed enabling legislation in 1975. Once the round was completed in 1979, Japan was among the most eager to implement the accord. Table 2 shows how the Tokyo Round reduced tariffs. Nontariff barriers also were an important topic, but, as will be seen below, progress was less clear-cut.

Table 2: Effect of Tokyo Round on Tariff Rates

	Average Tariffs	
	Before	After
Japan	9.9%	5.5%
United States	8.2	6.0
European Community	9.7	7.0

Source: Ministry of Finance

[2] Kiyoshi Kojima, Japan and a Pacific Free Trade Area (Berkeley and Los Angeles, California: University of California Press, 1971).

[3] For details see Ryutaro Komiya and Motosige Itoh, "Japan's International Trade and Trade Policy, 1955-1984," in Takashi Inoguchi and Daniel I. Okimoto (eds.), The Political Economy of Japan: Volume 2: The Changing International Context (Stanford, California: Stanford University Press, 1988), pp. 181-83.

Recent Use of GATT Provisions

GATT provides a mechanism for resolving trade disputes that fall under its rules, although the involved parties often solve their differences through direct negotiations. Japan recently has shown a new willingness to make use of the GATT mechanism to protect its interests. Tokyo has argued that the European Community's dumping provisions are GATT-inconsistent, violating the principle of equal treatment of foreign and domestic concerns. Specifically, the question is whether products of a Japanese-owned factory in Europe that contain a substantial number of components sourced from Japan should be counted as Japanese, and therefore subject to regulations regarding dumping, or domestic to the country where the factory is located, and thereby outside the coverage of the EC's dumping rules. Negotiations with the EC on this issue began in early 1987, and in October 1988 Japan formally asked GATT to study the question. GATT agreed to do so this spring, and its report is expected late this year (see JEI Report No. 20B, May 19, 1989).

The EC also has had a recent major case against Japan. The Europeans claimed that the 1986 semiconductor accord between the United States and Japan was being unfairly implemented, in particular that Tokyo imposed export restrictions in violation of GATT rules. A GATT panel agreed with the EC, and in March Tokyo announced new rules that satisfy the European complaints. The new measures went into effect June 1.

The United States, too, has used, or threatened to use, the GATT process against Japan. Japan initially blocked then accepted in early 1988 a GATT finding that confirmed an American complaint that Tokyo's restrictions on 10 agricultural goods violated GATT's Article 11 against quantitative restrictions (see JEI Report No. 7B, February 19, 1988). A U.S. decision to take Japan's beef and orange restrictions to GATT may have spurred negotiations that within only a few months substantially liberalized these sectors and precluded the U.S. action (see JEI Report No. 24B, June 24, 1988).

While the United States has not been reluctant to use the GATT process against Japan and other nations when it believes they violate international trading rules, Washington has behaved somewhat differently when it has stood accused. To the irritation of Japan and other GATT contracting parties, U.S. policymakers sometimes have appeared to ignore GATT decisions finding the United States in violation of GATT rules. With GATT essentially depending on voluntary compliance to correct violations, the pattern of America's behavior has raised questions about the U.S. commitment to the multilateral trade organization.

Yoshio Hatano, one of Japan's representatives to GATT, has publicly criticized the U.S. handling of a GATT decision concerning patent infringement. In November 1988 a GATT panel ruled as discriminatory to non-Americans Section 337 of the Tariff Act of 1930, which provides for a separate procedure for foreign firms accused of patent infringement. As such, the provision was deemed GATT-illegal. At five subsequent meetings, most recently in mid-June, the United States has blocked adoption of the finding. Brazil believes Washington has imposed GATT-illegal sanctions on its U.S.-bound exports in connection with a dispute over Brazil's alleged infringement of drug patents. Other nations, including Canada, still are pressing for a response to two GATT decisions that went against the United States in 1987, one involving Customs-user fees and the other a tax on oil imports for the environmental superfund.

Toward the Uruguay Round

Few experts believed that the evolution of GATT was complete with the end of the Tokyo Round in 1979. While the Tokyo Round took up many nontariff issues, many proved to be intractable. For example, little progress was made in making Article 19, the safeguards clause, more effective. This clause sets forth the conditions under which nations may implement temporary measures to protect an industry while it adapts to increased competition from foreign suppliers.

The problem lies in so-called "gray-area measures," the legality of which is not addressed clearly by current GATT rules. Yet the measures would appear to violate the spirit of the intended limits set forth in Article 19. Since the completion of the Tokyo Round, gray-area measures have proliferated. The orderly marketing agreements the United States negotiated in 1984 with foreign steelmakers are one example. In 1985 the Council of Economic Advisers estimated that the proportion of manufacturing subject to such measures increased to about 30 percent in 1983 from about 20 percent just three years earlier.[4] Critics who argue that GATT increasingly is irrelevant usually are referring to the widespread use of such fuzzy measures to restrict trade.

Services are another area that escaped inclusion in the Tokyo Round. Service industries -- which vary from housekeeping services to international banking -- dominate the economies of most industrialized countries. In the United States a small number of firms, with American Express Co. and some of its officials generally identifiable as the prime movers, have pressed for including services in GATT.

Actually, the argument for services as an item on the GATT agenda has never been as compelling as some would make it. While services undeniably are critical in the domestic economy, they account for a small, and declining, portion of international trade, a fact confirmed by a recent U.S. government study launched partly as a result of pressure from some in Congress eager to prove just the opposite.[5] Some of those pressing for inclusion of services on the GATT agenda resisted having the Commerce Department make this survey, perhaps intending to rely on a widely publicized, less comprehensive consultant's study that appeared to show that the services trade was much larger than Commerce eventually found.

Those advocating a full-fledged assault to liberalize international commerce in services often forget that the nature of services makes international trade unlikely for many service industries. If trade in doctors' services, for example, were to go global, either doctors would have to travel to foreign countries, their patients would have to come from abroad to see them or the services would have to be provided by telephone or some other communications network. Each of these possibilities is quite limited.

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[4] Council of Economic Advisers, Economic Report of the President (Washington, D.C.: U.S. Government Printing Office, 1985), p. 114.

[5] See "International Services: New Information on U.S. Transactions With Unaffiliated Foreigners," Survey of Current Business, October 1988, pp. 27-34.

The real concern for those making the case to include services under GATT is the right of service firms to engage in activities across national boundaries. This may include, for example, foreign governments permitting U.S. banks to establish branches abroad and to employ foreign nationals to provide services in their own countries. While worldwide economic efficiency would be raised by liberalizing such activities where currently restricted, the benefits to the participating countries are qualitatively different than in the case of traded services or goods. For example, American employees of a U.S. construction firm being permitted to provide its services in an overseas market would receive little benefit, in contrast to the employees of a firm that exported its products to a newly liberalized market.

The 1985 Economic Report of the President referred to above identified agricultural trade as even more riddled with distortions than trade in manufactured goods.[6] Agriculture largely had escaped earlier GATT attention, although many issues going before GATT involve agriculture, with the recent successful U.S. action against Japan's import restrictions on certain processed agricultural commodities and food products being an example. The more fundamental issue was, and is, agricultural subsidies, an almost universal feature of industrialized countries, but one that, given the volume of agricultural trade, carries a particularly large risk of distorting trade patterns even when the subsidies are confined nominally to domestic production and sales.

Finally, the GATT mechanism itself is in need of reorientation. As evident from the examples in the previous section, contracting parties have paid uneven attention to GATT decisions. In the absence of an enforcement mechanism, many feel that GATT has suffered from a lack of involvement at the top policymaking levels of member countries along with cumbersome and time-consuming procedures that have reduced its effectiveness.

For all these reasons, GATT was perceived as having tremendous holes on the eve of the Uruguay Round. The 1989 Economic Report of the President even went so far as to say, "Limits on product coverage have been made by commission and omission, with the result that GATT is by and large an agreement prescribing the rules of the game for those manufactured products that are not too politically sensitive in the industrial countries."[7]

From Punta Del Este to Geneva

On the urging of the United States, Japan and some others, the contracting parties of GATT agreed in a September 1986 meeting in Punta Del Este, Uruguay to launch a new GATT round, addressing some unfinished items from the Tokyo Round as well as some new ones.

In the early stages of the round, services probably were the most contentious issue. Developing countries resisted their inclusion on the agenda. A face-saving formula eventually was developed: services would be discussed

[6] Council of Economic Advisers, op. cit.

[7] Council of Economic Advisers, Economic Report of the President (Washington, D.C.: U.S. Government Printing Office, 1989), p. 158.

separately from other issues. As the talks have progressed, though, this has proven to be a distinction without a difference: progress in the services negotiating group has been linked to that in others.

At least one major variation from the Tokyo Round has been introduced. A rush of activity at the end of the previous round had been necessary to complete the negotiations. This time the ministers planned on a midterm review (dubbed by some in the initial stages as an "early harvest") as a way of measuring and -- the ministers hoped -- spurring progress. One major objective was to demonstrate to skeptical developing countries that the round would benefit them. This review also, they hoped, would generate support on the homefront of contracting countries for the negotiations and the results as they emerged.

What happened was a near disaster. Acrimony marked the midterm review, held in Montreal in December 1988, with the United States and Europe at loggerheads over agricultural subsidies (see JEI Report No. 47B, December 16, 1988). While very broad framework agreements were reached in 11 areas, they were made contingent on reaching agreement on agriculture and three other areas at a later meeting scheduled for Geneva.

In Geneva the sessions went better. Framework agreements were reached by April 18 in all 15 negotiating areas (see Table 3), thereby rescuing the tentative agreements reached in Montreal (see JEI Report No. 16B, April 21, 1989). But in some cases these accords amounted to very little. On trade-related investment measures, the negotiators could not come to a consensus on the scope of TRIMs to be subject to multilateral discipline. On agriculture the parties used vague language on the prickly question of subsidies. The framework agreement on textiles essentially repeated a portion of the text of the Punta Del Este declaration that launched the talks. In general, some of the participants characterized the framework agreements as little more than agreements to keep talking; others have said privately that they do not know what the framework agreements mean.

There were a few exceptions to this inconclusive result:

- Tropical products - The United States, Japan and others agreed to substantial cuts in tariffs on products from tropical areas. The agreement in this area thereby fulfilled one of the early objectives of demonstrating a concrete beneficial result of the Uruguay Round to developing countries.

- Functioning of the GATT system - The contracting parties agreed to quick implementation of various measures. These included provisions for: a Trade Policy Review Mechanism, which would examine on a regular basis domestic policies that affect international trade; GATT meetings at the ministerial level at least once every two years; and additional informal contact between the staff at GATT and at the IMF and the World Bank.

- Dispute settlement - The contracting parties agreed in Geneva to implement May 1 on a provisional basis an agreement reached in Montreal that would speed up substantially the process of dispute resolution. Specifically, the agreement sets time limits at various stages in the process. It also provides for a speedy, flexible arbitration process as an alternative to the normal one, faster procedures for forming GATT panels, new procedures where several parties have similar complaints, and more follow-up on adopted panel reports. Agreement in this area reportedly had been a Japanese priority.

Table 3: Negotiating Groups for the Uruguay Round

Group of Negotiations on Goods

Tariffs - While agreement has been reached to cut already low tariffs further, substantial disagreement remains on the best approach.

Nontariff Measures - A variety of topics could be discussed, possibly overlapping other negotiating groups. One chief focus appears to be rules of origin.

Tropical Products - Discussions include tariff and nontariff measures on both agricultural and nonagricultural goods produced in tropical areas, usually in developing countries.

Natural Resource-Based Products - The main focus has been on ferrous and nonferrous metals, forestry products and fisheries. Among the possible issues are subsidies, export restrictions and two-tier pricing.

Textiles and Clothing - The Multi-Fiber Arrangement and how it fits into the GATT framework are major issues.

Agriculture - Talks relate to agricultural policies that directly or indirectly affect import access, including tariffs, nontariff barriers, subsidies and export competition.

GATT Articles - Negotiations aim at possible changes in GATT articles not covered by other negotiating groups. The focus has been on Articles 17 (state trading), 18 (balance of payments), 21 (national security), 24 (free trade areas), and 28 (renegotiation of tariff concessions).

MTN Agreements and Arrangements - The goal here is to update and improve the seven agreements known as codes negotiated during the Tokyo Round that had as their purpose reducing nontariff barriers to trade. The government procurement code, for example, provides for national treatment of government purchases of goods. The codes are only binding among those parties that specifically agree to abide by them.

Safeguards - This group is reviewing, and may strengthen, Article 19, which permits restrictive measures in certain cases when imports are increasing rapidly and provides limits and conditions on these actions. The idea is to increase the use of Article 19 in place of gray-area measures that largely have replaced it in recent years.

Subsidies and Countervailing Measures - These talks aim to clarify the treatment of subsidies under GATT, which now are defined using subjective standards. Currently, under Article 16 of GATT a country may impose countervailing duties if it finds material injury to domestic producers from subsidized imports.

Dispute Settlement - This mechanism by which countries can bring complaints of other countries' GATT-inconsistent practices before GATT is being studied for ways to improve its procedures.

Trade-Related Aspects of Intellectual Property, Including Trade in Counterfeit Goods (TRIPs) - The goal here is to extend GATT protection and procedures to intellectual property rights such as copyrights, trademarks and patents. Presumably if protection were stronger, trade in goods and services embodying intellectual property, such as software, would increase.

Trade-Related Investment Measures (TRIMs) - This section discusses investment rules that have the effect of altering trade patterns adversely. For example, local content legislation is a TRIM since it mandates local investment for those wishing to export the product to the country enacting the legislation.

Functioning of the GATT System (FOGS) - A means of increasing GATT's effectiveness, primarily by increasing the level of interaction with governments and international organizations, leads this group's agenda.

Group of Negotiations on Services

Services - These talks encompass all sectors other than manufactured goods and primary products such as agriculture and raw materials. The objectives of those attempting to liberalize international activity in services are likely to focus on providing access to foreign suppliers of services on terms equal to those available to domestic suppliers (national treatment) and transparency (open, clear, measurable and verifiable rules).

Sources: Ministry of Foreign Affairs, Department of Commerce and General Agreement on Tariffs and Trade

Virtually everyone participating in the talks agrees that an enormous amount of work remains to be done in the next 18 months. For example, many consider the framework agreement in services to be a major accomplishment. However, negotiators have not yet decided which service sectors will be covered. Reports out of Tokyo in late May suggested a number of sectors, such as telecommunications and transportation, that the negotiators had selected to serve as "sector tests" to determine how an agreement might work in specific services. However, this list of industries was not to be taken as evidence that an actual agreement eventually would be negotiated in these sectors. One possibility is an "umbrella" agreement, with guidelines as to how the arrangement might work in specific industries and, perhaps, with provisions for exceptions to the overall accord.

The Next 18 Months

Well over halfway through their schedule the negotiators clearly have their work cut out, but the potential payoff remains large. If completely successful, the current round could lead to much lower trade barriers. Of course, comprehensive and detailed agreements in each of the 15 areas is asking a lot. One veteran of the current round, Michael Samuels, who until earlier this year was deputy U.S. trade representative and ambassador to GATT, has suggested that to be credible the current round will need to reach meaningful agreements in two areas, safeguards and subsidies. Concrete action in the former, especially, could go far toward reversing the number of trade barriers nations have erected in recent years.

The United States is pushing for all the parties to have their drafts on the table by the end of 1989, leaving 1990 for cutting deals. According to the current schedule, which no one wants to admit could slip, the negotiations should be completed by the end of 1990. Assuming no delays, as December 1990 approaches the pace of negotiations undoubtedly will pick up. One possibility is for a ministerial-level meeting behind closed doors to thrash out the remaining major differences. The U.S. coordinator for the Uruguay Round, Warren Lavorel, has mentioned a November 1990 meeting, probably in Brussels.

The GATT round in a sense is competing against a timetable posed by the tightening integration of the European Community scheduled for 1992. Early agreement in the Uruguay Round could circumscribe the EC's flexibility to establish new trade regimes within the community and with respect to the rest of the world.

GATT and the New Trade Law

Another important influence is the 1988 Omnibus Trade and Competitiveness Act. One reason for the act was to renew the fast-track congressional approval procedures needed for GATT, but some feel the act is casting a long shadow in other ways.

Most fundamental is the question of whether the new law has provisions that are either technically GATT-incompatible or that at least violate the spirit of GATT. Under GATT provisions, for example, a contracting party that feels its exports are being unfairly treated can take its complaint before the organization. The mere existence of this alternative often is enough to ensure successful negotiations between the two parties. In other cases a GATT decision carries the weight of international opinion and can be decisive in settling disputes. By contrast, the U.S. trade act sets this country up as both plaintiff and jury in some questions of market access for its goods and services worldwide. The executive branch's initial steps to implement the trade act, particularly the naming of Brazil and India as priority countries under the new Super 301 provision, reportedly has at least temporarily soured the GATT negotiating climate in Geneva. (Japan, the third country named, has less reason than Brazil and India, as shown below, to use the Super 301 action as an excuse to block progress in Geneva.)

Other features of the trade act may complicate GATT negotiations later. For example, if bilateral talks with Tokyo under the Super 301 framework are unsatisfactory, Washington might feel compelled to impose additional economic sanctions on Japan. To be consistent with current GATT terms, the Bush administration will have to choose those sanctions carefully. Many observers expect GATT to rule that Washington's recently imposed restrictions against Brazilian exports are GATT-inconsistent. To avoid running afoul of GATT again, U.S. officials may have to pick areas not subject to GATT currently but potentially coming under international trade rules on the basis of agreements reached in the Uruguay Round.

A concern of some Japanese officials is that implementation of the trade act is diverting the attention of U.S. Trade Representative Carla Hills and her staff. The act imposes tight deadlines and mandates negotiations in a variety of ways, which generally involve the chief U.S. trade negotiator. Since USTR is also the lead U.S. agency for the Uruguay Round, the small USTR staff may have a hard time giving the Uruguay Round the attention it deserves.

Another concern is that some in Congress may feel that the trade act is a substitute for a new GATT agreement. Congress spent much of its time in 1987 and 1988 considering trade legislation when legislators otherwise might have devoted their attention to new multilateral trade negotiations. In this respect, the atmosphere in Congress differed from comparable earlier rounds. I.M. Destler, a professor in the School of Public Affairs at the University of Maryland, has noted that Congress regarded the Uruguay Round as a peripheral issue in 1987 and 1988, in contrast to 1962 and 1974 when legislators saw their role as arming the executive branch for the Kennedy and the Tokyo Rounds, respectively. Furthermore, Congress this time has been skeptical about what the new round could accomplish and tended to focus on unilateral action, as exemplified by the expanded scope of Section 301 of the 1974 Trade Act.[8]

The United States and Japan in GATT

As more than one congressman has said, the Super 301 section of the new trade act was written with Japan in mind. With Japan now on the short list of priority countries that the USTR has compiled to meet the requirements of the Super 301 provision, the Bush administration has accommodated that view (see JEI Reports No. 17A, April 28, 1989, and No. 22B, June 9, 1989). In considerable contrast, the GATT agenda is for the most part devoid of issues that divide the United States and Japan.

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[8] I.M. Destler, "U.S. Trade Policymaking in the Uruguay Round," in Henry R. Nau (ed.), Domestic Trade Politics and the Uruguay Round (New York, New York: Columbia University Press, 1989), p. 201.

Agriculture is the obvious exception. Japan is said to have emerged as the leader along with Egypt of a small group of nations known as the food security group. Members of this group have noncompetitive agricultural industries and virtually no agricultural exports. As such, they are naturally resistant to proposals that eliminate agricultural subsidies and free up agricultural trade. In addition to Japan and Egypt, others in this group include South Korea, Switzerland and the Nordic countries. For Japan, of course, the most important single agricultural commodity is rice, which sells at several times world market prices in Japan.

At the opposite extreme, the Cairns group of agricultural-exporting countries, led by Australia and Canada, would like substantial liberalization. In the middle are the United States and the EC, which are both exporters and importers. For these reasons, the flare-up in Montreal between the United States and the EC was spectacular in part because the parties could have been expected to have relatively similar interests.

On subjects other than agriculture, however, Japan and the United States appear to agree more than disagree on the issues facing the Uruguay Round. On intellectual property, where one could be forgiven for thinking that the two countries are at loggerheads, Tokyo and Washington are in agreement over the need to strengthen protection for patents, trademarks and copyrights. In this case, they find themselves in disagreement with such countries as Brazil and India.

Both the United States and Japan feel they are internationally competitive in service industries. Since each feels it would benefit from more open markets, a meaningful agreement to liberalize trade or international investment in this area would have their support. The United States has advocated adherence to the same broad principles -- national treatment, transparency and nondiscrimination -- contained in a Japanese proposal. As in several other negotiating areas, foot-dragging is more evident among developing countries, which feel they need a chance to bring their service industries up to international standards.

Earlier this month Japan submitted to the negotiating group on nontariff measures a proposal concerning rules of national origin. The objective is to clarify the circumstances under which goods produced locally in foreign-owned plants using some inputs from abroad would be considered foreign or local for trade purposes. On this issue, which obviously is related to Tokyo's complaint discussed above concerning EC actions against products made by Japanese transplants, Japan's negotiators generally have the support of the U.S. team.

Some of the most contentious issues between the United States and Japan hardly figure in the Uruguay Round. The United States, for example, would very much like to see changes in Japan's distribution system, yet that issue is not covered under any of the 15 negotiating areas.

While some observers have noted a distinct lack of enthusiasm for the Uruguay Round in Japan, others believe that Tokyo is intent on the round's success. The latter group likens Tokyo's posture toward GATT negotiations to the attitude needed to ride a bicycle: you have to keep pedaling forward to avoid a fall. In this view, Japan would regard the principal contribution of the current round to be an end to the progressive erosion of GATT principles in recent years.

Conclusion

Has the multilateral trading system reached its darkest point before the dawn ushered in by potentially dramatic breakthroughs in the Uruguay Round? Some involved in the negotiations believe that to be the case. They point to the relatively cooperative attitude of developing countries as an encouraging factor compared to previous rounds.

Many breakthroughs remain possible, at least technically. The Multi-Fiber Arrangement, which allows the United States and many other countries to negotiate restraints on imports of textiles and apparel on a supplier-by-supplier basis, will be discussed in the textile negotiating group; a conceivable weakening of the MFA would be a great step forward for free trade. If telecommunication services were liberalized worldwide, businesses and individuals -- especially outside the United States -- could expect lower prices and more sophisticated services. American firms would generate significant new business. If the U.S. steel restraint agreements had to be scrapped, benefits would accrue to steel users in the United States and foreign steel companies, among others.

Agreement on even a few important issues, like those outlined, would be a welcome change to free-traders throughout the world who have seen so much movement toward restricting international competition in recent years. Some remember how quickly issues crystallized and were resolved in the final stages of the Tokyo Round and are hoping for the same this time.

U.S. acquiescence to any agreement, of course, would require congressional approval. Some legislators have complained that the White House has not involved them sufficiently in the GATT negotiations to date. Given the current mood on Capitol Hill, a new GATT agreement may not be judged tough enough on Japan. Add the inevitable provisions that would harm certain U.S. interests, and a number of lawmakers may find at least some political ammunition and, perhaps, reason to vote against the agreement. Of course, such speculation involves reading the mood of Congress and the public a year and a half from now, a difficult exercise at best.

Those who believe in strengthening GATT have been encouraged by the progress in the Uruguay Round to date and are hopeful that, if an agreement comes before Congress, it would pass. Such action certainly would signal a positive turn in U.S.-Japan trade relations and, quite possibly, renewed momentum for free trade generally.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

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Upper House Elections Set: The Race Is On . . .

The Uno administration and the ruling Liberal Democratic Party formally decided June 20 to make July 23 the day when Japan's 88.9 million registered voters may cast their ballots to decide representation in the House of Councillors, the upper house of the Diet. Top government and LDP officials also decided that the official campaign period will begin July 5, just 18 days before voting day -- although, like politicians the world over, there probably is never a time when Japanese Diet members from all parties are not campaigning for reelection.

The vote will be a critical test for the ruling party and, depending on the outcome, could precipitate groundbreaking changes in Japanese government leadership. Coming in the wake of the Recruit Co., Ltd. influence-peddling scandal, enactment of a controversial 3 percent consumption tax and implementation of certain agricultural reforms, the upper house contests have been likened to a type of plebiscite on the LDP's current governance of the country. At

JEI press time reports of Prime Minister Sosuke Uno's personal problems, mixed with the LDP's defeat in a June 25 by-election for the upper house, were raising questions in Japan about whether Mr. Uno would resign even before the elections. The prime minister has strongly denied rumors that he might step down. But public reaction to continuing allegations about his sexual liaisons with geishas reportedly is complicating his ability to shore up support for the LDP.

Of the 252 seats in the House of Councillors, 126 seats will be at stake. (Upper house members have staggered terms so that only half are up for election every three years.) The LDP, with 69 of its current 142 seats up for election (see Table), needs to win 54 seats to hold a simple majority of 127; it must win 59 seats in order to keep a stable majority of 132, which would enable the ruling party to retain the chairmanships of all 18 standing committees. In view of the shaky public support for Mr. Uno's new government -- 22 percent, according to a June 15 Mainichi Shimbun survey, the lowest level ever recorded for a new administration -- many political analysts expect the LDP may have a hard time securing even 54 seats. Should this happen, legislative activity on ruling party initiatives probably would grind to a halt, unless the LDP accommodated some opposition party demands in its proposals.

Diet Membership, June 1989

	Lower House	Upper House
Liberal Democratic Party	293	142
Japan Socialist Party	85	42
Komeito	56	23
Democratic Socialist Party	29	12
Japan Communist Party	27	17
Independents	8	5
Vacant	14	1
Tax Payers' Party*	0	4
Daini-In Club*	0	3
Salaried Workers' New Party	0	3
Total	512	252

*These minor parties differ from the opposition parties in that they generally have a single-issue focus and lack a significant external support organization.

Recognizing the uphill battle it faces, the ruling party included in its campaign platform a number of provisions designed to restore public confidence in the government. The policy package, approved June 16 by the LDP executive council, includes an explicit apology to the electorate for the involvement of a number of senior LDP members in the Recruit scandal. "As the ruling party, we apologize to the public for having generated serious distrust of national politics," the document stated.

The policy outline also emphasizes the importance of a sweeping reform of Japan's political system, including provisions that, by changing representation from a multi-seat to a single-seat district, effectively would end the ruling party's factional organization. On the controversial consumption tax, the platform states that the party would "reexamine" the tax to eliminate some of its alleged faults, but there is no suggestion that the LDP would support discontinuation of the levy.

Prime Minister Uno followed up this prospectus June 19 with a statement reiterating his intent to enact political reforms before his term as LDP president runs out in October. Only after this is achieved will he consider dissolving the lower house for elections, the prime minister said in a June 19 interview with NHK (Japan Broadcasting Corp.) The opposition parties repeatedly have pressed for dissolution of both houses in order to take advantage of the LDP's popularity problems (see JEI Report No. 23B, June 16, 1989). They went one step further June 14 and submitted a bill to the parliament urging Mr. Uno to call a snap election. However, the LDP, which holds 293 seats in the 512-seat lower house, June 21 easily killed a motion to consider the legislation offered jointly by the Japan Socialist Party, Komeito and the Democratic Socialist Party. If the ruling party does not incur substantial losses in the upper house elections and if Mr. Uno is renamed party president and thus prime minister -- two highly problematic factors at this stage -- Mr. Uno has said that the soonest he may call a general election is the end of the year.

Barbara Wanner

Tokyo Tries To Keep Door Open To China

The execution of Chinese protesters June 21 by Beijing generated a second wave of condemnations from democratic governments. While the United States imposed additional restrictions on political and economic links with China. Tokyo again expressed deep regret but stopped short of instituting sanctions. Tokyo continues to feel that a number of historical and political factors constrain it from taking a more vocal stand. While seeing its position as being "substantively" in line with the China policies of the United States and other Western nations, Japan hopes a moderate response will prevent excessive international isolation of China. The restrained reaction of Japanese policymakers and businessmen to the China situation, however, has run into foreign and domestic criticism.

Tokyo's initial reaction to Beijing's forced ending June 6 of the pro-democracy student demonstrations was to express deep regret at the violence but to steer clear of condemning the political repression (see JEI Report No. 23B, June 16, 1989). Tokyo is laboring under the assumption that harsh criticism of the crackdown would ignite China's memories of Japanese war actions that, in turn, would be used by Beijing to divert attention from its own actions. China is viewed by Tokyo as a counterweight to Soviet influence in Asia and an important factor in solving regional disputes, such as the situation in Cambodia. From geopolitical and economic standpoints, therefore, Tokyo feels that ties to China are too important in the long run to risk.

Japanese businessmen brought criticism down on themselves by beginning to return to China less than 10 days after the crackdown started. Foreign Minister Hiroshi Mitsuzuka first indirectly chided businessmen, claiming that their rush to return to China could be seen as an attempt to fill the vacuum left when other foreign businesses halted operations or as an attempt to gain windfall profits from the situation. Businessmen were like "thieves at a fire," he charged in an address before the Diet. A Foreign Ministry spokesman lamented the apparent lack of corporate ethical sensitivity. Companies responded by claiming that they were sending back only enough personnel to safeguard and maintain offices and residential quarters. Nevertheless, several major Japanese firms admit to keeping their offices open during the crackdown and plan to move ahead with several factory openings in the near future.

In the aftermath of the executions that began June 21, Tokyo has hinted at the possibility that it will consider sanctions. Foreign Ministry spokesman Taizo Watanabe told foreign reporters that restoration of stability and effective operation of the Chinese government were not enough to assure the resumption of foreign aid, which Tokyo had put a hold on earlier in the month. "We still have to make up our minds as to whether or not it would be proper for us to go ahead" with aid programs, Mr. Watanabe asserted. Washington announced June 20 that it would block any efforts by China to obtain new aid from multilateral organizations, such as the World Bank. Japan may not publicly take such a stance, but Foreign Ministry officials predict that aid will remain "virtually frozen" until Beijing meets four requirements: the installation of an effective government; the restoration of stability through the lifting of martial law and other restrictive measures; a renewed commitment to economic reform and open-door policies by Beijing; and an improvement in China's external relations, particularly with the United States.

Opinion within the Diet is remarkably diverse on the China question. A poll conducted by a Japanese newspaper revealed that the differences cut across party lines. Takujiro Hamada, a Liberal Democratic Party member of the lower house Foreign Affairs Committee, was in favor of banning high-level government contact with China, a step already taken by the United States and other countries. Members of the opposition Japan Socialist Party and Democratic Socialist Party were more widely split, some calling for an end to economic aid to China while others were against any sort of sanction. According to the poll, the differences were based on perceptions of whether other countries would escalate their response and whether Japan would be criticized for taking a more moderate stance.

More fundamentally, Beijing's regression to hard-line domestic politics has rocked Tokyo's Asia policy to its foundations. Japan's massive economic aid was predicated on the idea that it would encourage not only Chinese economic development but political development as well. China's image as a foundation for Asian stability was shattered and the Foreign Ministry caught unawares, according to Japanese newspaper editorials. In a June 26 meeting with Secretary of State James Baker and in an address before the Asia Society in New York, Foreign Minister Mitsuzuka expressed support for the Bush administration's "balanced" approach to the China situation. He sought to maintain Japan's middle road by claiming that China "is in a process towards settlement of the domestic situation" and that Tokyo will continue to urge restraint by Beijing. Whether such urging will have any effect is uncertain.

Jon Choy

Japan's Economy On Auto Pilot

The Japanese public may not have had much time to concentrate on the economy of late. The consumption tax initiated in April and political scandals tied to the Recruit Co., Ltd. influence-peddling scheme have captured headlines. Opinion polls show that the government's support among the population continues at low levels. Ruling party politicians might prefer that the economy got more attention.

The gross national product continues to dazzle, growing at an inflation-adjusted 9.1 percent annual rate in the January-March 1989 quarter (see Table). At least one of the ruling party's problems seemed to play an ironically positive role in the latest figures. The knowledge that taxes would be rising on a broad variety of goods and services April 1 prompted anticipatory buying in March, lifting some GNP components as well. The most affected category, personal consumer spending, leaped 7.8 percent on an annual basis in the quarter, offsetting the possibly negative influence in January and February of the Showa emperor's death and funeral.

As it has been in nearly every quarter recently, the most important contributor to overall growth in the January-March period was private plant and equipment spending, which reached 22.9 percent of total real GNP, one of the highest quarterly figures in recent memory. Capital spending contributed 1.5 percentage points to the quarter's overall growth of 2.2 percent or 68.2 percent of the total net increase.

By comparison, virtually every other category of GNP grew sluggishly or contracted. Residential construction, for example, which had shown some signs of resuming growth after reaching a plateau early last year, slipped, leaving it a mere 0.2 percent ahead of the same quarter a year ago. The various categories of government spending made a modest 0.4 percentage point contribution to overall growth. Most of the increase, however, was the result of the volatile government inventories category.

The foreign sector, which had made positive contributions in the July-September and October-December quarters, shaved 0.2 percentage point off the overall growth rate in the latest period. On a price-adjusted basis, exports surged in the quarter, but imports grew even faster. The resultant negative effect on GNP had been foreshadowed by the decline in Japan's current account during 1989's first three months (see JEI Report No. 19B, May 12, 1989).

The January-March quarter closed out Japan's 1988 fiscal year. Based on the predictions made last winter, private forecasters were right on the money, on average, in expecting a 5.1 percent real rate of growth for FY 1988. The government, which in January had projected the economy's expansion at 4.9 percent, was too pessimistic. Tokyo overestimated the growth of consumer spending while sharing nearly everyone's lack of confidence in the continuing spectacular performance of plant and equipment spending. The FY 1988 GNP result just missed matching the 5.2 percent increase registered in FY 1987.

For FY 1989 the government is expecting 4 percent real growth, while private forecasters are betting on 4.3 percent (see JEI Report No. 9A, March 3, 1989). Some of the latter recently have raised the earlier estimates on which that average is based. In May Dai-Ichi Kangyo Bank, Ltd., the world's largest commercial bank, hiked its forecast from 4.3 percent to 4.5 percent. The Industrial Bank of Japan, Ltd. revised its 4.4 percent figure up to 5 percent. Both banks see a repeat of this past fiscal year's pattern in which surging plant and equipment spending led the way, followed by strong private consumer

Japan's Real Gross National Product at Constant (1980) Prices

(in billions of yen, seasonally adjusted, quarterly totals and rates of growth at annual rates)

	FY 1987	FY 1988	April-June 1988	July-September 1988	October-December 1988	January-March 1989
Gross National Product	Y317,589.4 (5.2%)	Y333,831.9 (5.1%)	Y324,982.8 (-3.3%)	Y332,443.8 (9.5%)	Y335,266.6 (3.4%)	Y342,639.1 (9.1%)
Personal Consumption Spending	176,575.8 (4.5%)	184,810.2 (4.7%)	182,010.8 (2.6%)	184,590.0 (5.8%)	184,620.7 (0.1%)	188,065.8 (7.7%)
Private Residential Construction	19,631.1 (25.6%)	20,998.6 (7.0%)	19,682.3 (-30.3%)	20,854.4 (26.0%)	22,028.0 (24.5%)	21,601.3 (-7.5%)
Private Fixed Nonresidential Investment	61,812.5 (10.0%)	72,864.1 (17.9%)	68,143.0 (19.8%)	71,021.6 (18.0%)	73,420.6 (14.2%)	78,284.7 (29.3%)
Change in Business Inventories	1,274.0 (*)	1,425.3 (*)	2,043.0 (*)	2,093.0 (*)	1,496.3 (*)	92.0 (*)
Government Current Expenditures	28,637.2 (-0.9%)	29,254.2 (2.2%)	28,990.9 (2.2%)	29,184.4 (2.7%)	29,376.7 (2.7%)	29,463.0 (1.2%)
Government Fixed Investment	24,466.8 (10.0%)	24,981.6 (2.1%)	25,189.5 (-9.3%)	24,734.6 (-7.0%)	24,910.7 (2.9%)	25,144.8 (3.8%)
Change in Government Inventories	45.3 (*)	-194.6 (*)	119.5 (*)	-225.9 (*)	-916.2 (*)	253.3 (*)
Net External Sector	5,146.7 (-36.0%)	-307.5 (-106.0%)	-1,196.2 (-99.0%)	191.7 (*)	329.8 (875.2%)	-265.8 (*)
Exports of Goods and Services and Factor Income Received	55,415.8 (5.2%)	60,890.4 (9.9%)	55,377.6 (-14.4%)	60,994.6 (47.2%	61,381.8 (2.6%)	66,038.7 (34.0%)
Imports of Goods and Services and Factor Income Paid	50,269.1 (12.6%)	61,197.9 (21.7%)	56,573.8 (22.0%)	60,802.9 (33.4%)	61,052.0 (1.6%)	66,304.5 (39.1%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

spending. The banks also expect that both the real and the nominal current account balance will show further declines in FY 1989.

Of course, the banks cannot guarantee that their new forecasts will be more accurate than the old ones. Some econometric studies suggest that updated forecasts often are no better than the ones they replace. But ruling party politicians are, no doubt, thankful for the relative cheerfulness of the practitioners of the dismal science. And the same party's candidates, facing an upper house election this summer, can be grateful for the politicians' apparent irrelevance to the economy's performance. The economy has continued on a strong, upward course for more than two years with little policy intervention. Japan's economy -- like its more automated factories -- seems to require little human attention to achieve peak levels of performance.

Douglas Ostrom

Japan Remains World's Number-Two Aid Donor

Official development assistance figures reported by Tokyo to the Organization for Economic Cooperation and Development show that Japan remained the number-two donor in dollar terms for 1988 behind the United States, despite a big increase in Japan's foreign aid. In yen terms Tokyo's aid disbursements increased 8.6 percent from 1987's level to nearly Y1.2 trillion ($9.1 billion at Y128.15=$1.00, the average exchange rate for 1988). This worked out to a gain of 8.1 percent in real terms and 22.5 percent in dollar terms, according to OECD data released June 22. Japan's ratio of foreign aid to gross national product last year edged up to 0.32 from 1987's figure of 0.31.

The United States remained the single largest donor in dollar terms in 1988. Washington disbursed $9.8 billion, which represents an increase in real terms of 5.7 percent. The unusually high rate of increase for the United States, the OECD said, was due largely to the timing of donations to multilateral organizations, primarily two large payments to the Inter-American Development Bank. Despite the large quantity of aid, the United States gave only 0.20 percent of its GNP, which earned America the lowest rank of the 18 countries that are members of the OECD's Development Assistance Committee.

Last year marked the start of a five-year, $50 billion plan under which Tokyo is committed to doubling in dollar terms the total for the previous five years. Then Prime Minister Noboru Takeshita announced the latest plan at the economic summit meeting in Montreal last year. Tokyo hopes to raise its ODA/GNP ratio to equal the DAC average by the end of 1992. While the average for Japan edged up slightly in 1988, the overall DAC average also increased fractionally to 0.35 percent from a 1987 low point of 0.34 percent. Japan's aid per GNP ranks 12th among the 18 DAC countries, tied with Switzerland and the United Kingdom. America's 1988 level of 0.20 percent tied it with Ireland for last place. The Scandanavian countries and the Netherlands continued their dominant positions in terms of aid disbursements as a percentage of GNP. Norway again topped the list as the only country to donate more than 1 percent of its GNP in foreign aid, giving 1.12 percent in 1988.

Japan's bilateral grants in yen terms rose 16 percent in 1988, according to Ministry of Foreign Affairs data, up a real 15.5 percent as determined by

Net Flow of Financial Resources from Japan to Developing Countries and Multilateral Agencies, 1984-88

(in millions of dollars)

Type of Transaction	1984	1985	1986	1987	1988	Percent Change 1987-88
Official Development Assistance	$4,319	$3,797	$5,634	$7,454	$9,134	22.5%
Change Over Previous Year	14.8%	-12.1%	48.4%	32.3%	22.5%	
ODA/GNP Ratio	0.34%	0.29%	0.29%	0.31%	0.32%	
Bilateral Assistance	2,427	2,557	3,846	5,248	6,422	22.4%
Grants	1,064	1,185	1,703	2,221	2,908	30.9%
Grant Assistance	543	636	855	1,154	1,483	28.5%
Technical Assistance	521	549	849	1,067	1,425	33.6%
Development Lending and Capital	1,363	1,372	2,143	3,027	3,514	16.1%
Grants, Capital Subscription and Loans to Multilateral Agencies	1,891	1,240	1,788	2,207	2,712	22.9%

Notes: 1. Net disbursement basis.
2. Due to rounding, the figures do not necessarily add up to the totals.

Source: Ministry of Foreign Affairs

OECD definitions, which vary slightly from the standards of the Japanese government. This aid is comprised of financial assistance, which rose 13.9 percent to Y190.1 billion ($1.5 billion), and technical assistance, which hit Y182.6 billion ($1.4 billion), up 18.3 percent, according to MFA. Bilateral lending increased modestly to Y450.3 billion ($3.5 billion), a gain of 2.9 percent by MFA standards and 2.4 percent using the OECD definition. Tokyo's contributions to multilateral organizations topped Y347.5 billion ($2.7 billion), climbing 8.9 percent from 1987 (8.4 percent by the OECD standards). For dollar-denominated comparisons, see the table.

Judging by the real increase in 1988 ODA of more than 8 percent, Japan appears well on its way to reaching its goal of contributing $50 billion during the 1988-92 period and raising its ODA/GNP ratio to the DAC average. The FY 1989 budget has designated a 7.8 percent increase in foreign aid within the general account budget. The budgeted figures are expected to make Tokyo the world's leading aid donor in dollar terms this year. In addition, aid experts are watching to see if Japan will develop a foreign aid policy distinct from that of the United States. As pressure from Washington increases over the issue of burdensharing, foreign aid may offer a testing ground for Japanese policymaking in the world arena. Prime Minister Sousuke Uno, a former foreign minister, may have the skills to formulate such a protocol and to spearhead policy coordination among the many Japanese agencies that deal with foreign aid. However, he first must come to grips with the domestic political upheavals that landed him in office.

Gretchen Green

Japan Ups Ante In Mexico

Mexico is considered one of the "good boys" by international bankers and government officials in industrial countries. In the past few years, Mexico City has substantially restructured the economy and maintained a good record with its international creditors. But the debt has proven to be a persistent difficulty. Mexico's debt problems in the early 1980s were among the factors leading to the Baker Plan of 1985, named after then Secretary of Treasury James Baker. Now Mexico has become an early test of the Brady Plan, named after Nicholas Brady, Mr. Baker's successor at Treasury.

The United States tends to think of Mexico as special among developing countries because of their shared border. American firms also have disproportionate levels of investment in Mexico and trade with that country. But Japan, too, is involved substantially in Mexico, as has become increasingly evident in the ongoing negotiations over Mexico's debt.

Under the Baker Plan, multinational banks were supposed to come forward with additional lending to help countries such as Mexico overcome their debt repayment difficulties. The predictable problem soon became apparent: the major international banks thought this was a great idea -- for someone else. Each bank understood that its own loans would be more secure if supplemented with additional funds. With loans selling on the secondary market for a fraction of their face value, few banks were willing to take the plunge aimed at making all banks better off.

Economists refer to this difficulty as the "free-rider problem" for obvious reasons. Originally the term referred to workers eager to accept the high wages that resulted from a union contract but unwilling to bear the pain of strikes, union dues and problems with the employer that union membership entailed. Yesterday's blue-collar workers have a modern counterpart in multinational banks.

The Brady Plan was supposed to deal with the free-rider problem involving banks. Debt relief of one kind or another was to be substituted for some of the new lending. Now banks could not be free riders simply by refusing to make new loans. Instead, as foreign borrowers negotiated deals that reduced interest payments or loan principal amounts, all those involved would share the pain.

Unfortunately the plan does not seem to be working out that way. Banks have discovered a new way to hitch a ride: let other banks grant debt relief. As they do, the secondary value of the remaining debt will rise -- to the advantage of all banks. Of course, if all banks think this way, no debt relief will be forthcoming. Yoh Kurosawa, deputy president of the Industrial Bank of Japan, Ltd., has hinted that U.S. banks are culprits in this regard. He suggested that Japanese banks, by contrast, presumably including his own, are following the script of the Brady Plan.

In labor relations, coercion sometimes solved the free-rider problem. Free riders were threatened or made subject to laws limiting their options. Under Secretary of the Treasury for International Affairs David C. Mulford has suggested that banks may face the same fate. In late May he warned banks that, if they did not go along, they could face legislation compelling them to cooperate. So much for voluntary debt relief, which appeared to be a key feature of the Brady Plan when it was unveiled in March.

Money could be another solution. If credit enhancements were to be substantial, banks might be more willing to replace old debt with new debt of lower face value or carrying a reduced interest rate. This obviously is where Japan enters. In the early days of the Brady Plan, Japan promised to kick in $4.5 billion to be used in conjunction with funds from the International Monetary Fund and the World Bank. Other countries have not announced similar commitments. In May Tokyo pledged another $1 billion in cofinancing loans to Mexico in conjunction with IMF and the World Bank.

Will this be enough? Virtually everyone agrees it will not. Mexico alone has bank debt reaching about $69 billion, of which an estimated $10 billion is owed to Japanese banks. The face value of the debt the 17 most heavily indebted countries owe to banks comes to about $376 billion. Of course, the guarantees would not have to cover all debt. A more reasonable criterion might be to guarantee the current secondary market value of the total debt, about $132 billion in the 17 countries, according to calculations by Professor Rudiger Dornbusch of the Massachusetts Institute of Technology. Clearly, the Japanese contribution to date, while generous compared to other countries, is little more than a drop in the multinational ocean.

One key aspect of the negotiations with Mexico is whether, as one of the good boys, it ends up being given a more-than-proportionate share of the candy. And Mexico is only the beginning. The Philippines, Venezuela and Costa Rica are other good boys waiting in the wings, hoping to receive early, and favorable, treatment. Beyond that are the bad boys, the countries with poor recent debt-handling records. How to grant them debt relief when they already have given themselves plenty is a difficult problem. Finally, if multilateral organizations and banks develop a reputation as pushovers, some countries not normally on either good-boy or bad-boy lists may want some of the action. For example, India could make the argument that if debt relief should become a tool of economic development then New Delhi is as deserving as any, and a way should be found for it to participate.

All the parties hope for an accord with Mexico soon or, at the latest, by the mid-July summit meeting of the leaders of the world's industrial democracies. While an agreement may well be possible by then, few expect such an accord would end the debt problems with Mexico, let alone those of the other heavily indebted countries. With the considerable involvement of both its government and its banks, Japan is likely to play an increasingly important role as these negotiations go forward.

Douglas Ostrom

Foreign Firms Increase Japan Presence

Foreign direct investment in Japan rose very strongly in the year ending March 31, 1989, underscoring increased overseas interest in penetrating Japan's market, Ministry of Finance data show. A vibrant Japanese economy and relatively stable exchange rates undoubtedly weighted decisions toward direct investment in Japan. For all of FY 1988 total foreign direct investment in Japan jumped 46.5 percent in value to $3.2 billion, while the number of investments rose 8.2 percent to 4,268 (see Table 1). From a cumulative standpoint the gain was equally dramatic: the value of all foreign direct investment in Japan rose 34 percent from its March 31, 1988 level to $12.8 billion and the number of cases grew 15.7 percent to 31,508.

By country, American investment rebounded from its depressed FY 1987 performance, increasing in value by almost 90 percent and providing over half of all new foreign direct investment in Japan in FY 1988. In contrast to the gains showed by most of Japan's major trading partners, the catch-all "other" category showed a very sharp decline in value terms, although the number of transactions rose.

By industry, the sharp shift in favor of manufacturing ventures was striking (see Table 2). The value of investments in production facilities jumped almost 70 percent in FY 1988, pushing the cumulative total up a whopping 33.7 percent. The machinery sector increased its hold on first place, accounting for more than half of all investment dollars in the April 1988-March 1989 period. The chemicals industry also showed great gains, however, with FY 1988's value more than double the previous year's. Nonmanufacturing investment showed a spotty pattern, with some industries netting large gains while others posted declines.

As for the preferred financing vehicle in FY 1988, foreign purchases of convertible or warrant bonds (classified as cash loans in Table 3) were not as popular as the previous year. Very large bond offerings by Japanese banks as they sought to meet tougher capital requirements may have depressed the market, decreasing this option's attractiveness. Nevertheless, such fund-raising still financed almost a quarter of the value of all investment in FY 1988.

Table 1: Foreign Direct Investment in Japan by Country, FY 1987-FY 1988

(in millions of dollars)

	FY 1987			FY 1988			Cumulative March 31, 1989		
	Cases	Value	Share	Cases	Value	Share	Cases	Value	Share
United States	684	$938	42.4%	670	$1,774	54.7%	6,954	$6,268	49.0%
Canada	118	4	0.2	98	22	0.7	589	152	1.2
United Kingdom	368	49	2.2	447	112	3.5	2,731	518	4.0
West Germany	237	53	2.4	239	195	6.0	1,663	546	4.3
France	180	20	0.9	223	27	0.8	1,605	202	1.6
Switzerland	311	169	7.6	303	273	8.4	1,875	928	7.3
Netherlands	269	78	3.5	351	157	4.8	1,398	482	3.8
Other Europe	199	79	3.6	181	52	1.6	1,585	337	2.6
Hong Kong	370	36	1.6	386	44	1.4	3,566	390	3.0
Japan*	371	226	10.2	411	306	9.4	3,058	1,653	12.9
Other	839	563	25.4	959	280	8.6	6,484	1,318	10.3
Total	3,946	2,214	100.0	4,268	3,243	100.0	31,508	12,794	100.0

*Investments by Japanese firms with significant foreign participation.

Source: Ministry of Finance

Table 2: Foreign Direct Investment in Japan by Industry, FY 1987-FY 1988

(in millions of dollars)

	FY 1987			FY 1988			Cumulative March 31, 1989		
	Cases	Value	Share	Cases	Value	Share	Cases	Value	Share
Manufacturing	1,505	$1,430	64.6%	1,715	$2,425	74.8%	14,688	$9,030	70.6%
Food	140	7	0.3	122	86	2.7	1,004	266	2.1
Textiles	3	0	0	16	1	0.0	158	51	0.4
Rubber and Leather	1	1	0	1	0	0.0	86	47	0.4
Chemicals	162	244	11.0	181	500	15.4	2,023	2,519	19.7
Petroleum	34	34	1.5	37	27	0.8	441	684	5.3
Nonmetallic Mineral Products	71	3	0.1	9	11	0.3	367	135	1.1
Metals	86	14	0.6	11	29	0.9	680	457	3.6
Machinery	803	1,110	50.1	1,103	1,732	53.4	8,295	4,562	35.7
Other	205	17	0.8	235	39	1.2	1,634	309	2.4
Nonmanufacturing	2,441	782	35.3	2,553	818	25.2	16,820	3,764	29.4
Construction	194	2	0.1	134	8	0.2	751	73	0.6
Real Estate	93	20	0.9	72	70	2.2	253	147	1.1
Commerce	1,129	291	13.1	1,177	454	14.0	9,111	1,669	13.0
Services	652	181	8.2	971	152	4.7	4,549	660	5.2
Transportation	35	36	1.6	36	2	0.1	270	80	0.6
Communications	34	26	1.2	33	40	1.2	86	104	0.8
Banking and Insurance	82	155	7.0	14	61	1.9	207	392	3.1
Other	222	71	3.2	116	31	1.0	1,593	639	5.0
Total	3,946	2,214	100.0	4,268	3,243	100.0	31,508	12,794	100.0

Note: Totals may not add up due to rounding.

Source: Ministry of Finance

Table 3: Trends in Foreign Direct Investment in Japan, FY 1951-88

(number of cases and millions of dollars)

Fiscal Year	Stock Acquisition		Cash Loans		Total	
	Cases	Amount	Cases	Amount	Cases	Amount
1951-1980	8,826	$2,979	n.a.	n.a.	8,826	$2,979
1981	919	432	n.a.	n.a.	919	432
1982	1,052	749	n.a.	n.a.	1,052	749
1983	2,363	813	n.a.	n.a.	2,363	813
1984	3,685	493	n.a.	n.a.	3,685	493
1985	3,322	780	48	$150	3,370	930
1986	3,045	760	34	180	3,079	940
1987	3,912	1,453	34	761	3,946	2,214
1988	4,236	2,576	32	667	4,268	3,243
Total	31,360	11,035	148	1,758	31,508	12,794

Source: Ministry of Finance

Unlike FY 1986 and FY 1987, the yen/dollar exchange rate was relatively stable in FY 1988, with the Japanese currency rising just 7.9 percent on average against the dollar. This stability may have encouraged more foreign direct investment. If the dollar holds onto some of its recent gains against the yen, foreign firms may raise their stakes in Japan at an even faster rate. The cool reception American investor T. Boone Pickens Jr. received from Koito Manufacturing Co., Ltd. after buying one-fifth of its equity may cloud the investment atmosphere eventually (see JEI Report No. 22B, June 9, 1989), but it is unlikely to slow the flow of foreign money into Japan.

Jon Choy

Congress Explores Super 301 Priority Practices

Congress appears anxious to keep a close watch on progress in the negotiations with Japan, Brazil and India under the Super 301 provision of the 1988 Omnibus Trade and Competitiveness Act. The science, research and technology subcommittee of the House Science, Space and Technology Committee conducted a hearing June 20 about the U.S. supercomputer industry and Japanese competition. And June 22 the international trade subcommittee of the Senate Finance Committee reviewed the issue of Japanese barriers to U.S. forest products.

Capitol Hill has been very concerned over the future of the U.S. supercomputer industry since Control Data Corp. pulled out of the field, leaving only Cray Research Inc. to compete with three Japanese challengers in this leading-edge technology. American firms contend that Tokyo's government procurement policies are a trade barrier since sales of U.S.-made supercomputers to the Japanese public sector are practically nil, despite modest success in sales to Japanese businesses and a 60 to 70 percent share of the world market (see JEI Report No. 17A, April 28, 1989). Pointing out what may be a weak link in U.S. supercomputing know-how at the June 20 hearing, David Kuck, director of the Center for Supercomputing Research and Development at the University of Illinois, stressed the need for more funding to develop quality software products usable with the wide range of supercomputer hardware available.

Paralleling the concerns of the House subcommittee, Sen. Albert Gore (D, Tenn.) introduced May 18 the National High-Performance Computer Technology Act (S 1067), a bill that would provide nearly $1.8 billion over a five-year period to create a supercomputer fiber-optic network that would connect databases from industry, universities and the government. Many experts believe government grants are necessary to keep America's supercomputer industry competitive in the face of strong Japanese rivals.

In the June 22 hearing on wood products Donald Phillips, assistant U.S. trade representative for industry, told the subcommittee that an important reason for naming forest products as a trade-liberalization priority was the failure of previous negotiations in that sector under the MOSS (market-oriented, sector-selective) framework. Mr. Phillips indicated, however, that a major lesson learned by the United States from the MOSS talks was that to make progress Washington first must sit down to negotiate with Tokyo.

In protesting Washington's unilateral action under Super 301, the Japanese government has said it will not enter into negotiations under the threat of retaliation (see JEI Reports No. 22B, June 9, and No. 24B, June 23, 1989). But Alan Dunn, the Commerce Department's deputy assistant secretary for basic industries, told the subcommittee that the framework is irrelevant as long as Japan enters into negotiations with the United States. The goal of opening the Japanese market to U.S. forest products is more important than the method used, according to Mr. Dunn.

Republican Sen. Bob Packwood, whose home state, Oregon, is in the heart of the wood-producing Northwest, told the subcommittee that the United States is seeking fair access to Japan's markets and not special privileges. Since America has a comparative advantage in wood products, fair access would benefit both U.S. producers and Japanese consumers, he said. One complaint against Japan has been its relative discrimination against value-added wood products in comparison with logs.

As previous negotiations have shown, talks with Japan either inside or outside the Super 301 framework are certain to be strenuous. By showing constant interest and reminding Japan of deadlines under the 1988 trade law, Congress and the representatives of the targeted industries -- supercomputers, wood products and satellites -- are hoping that these discussions will be more fruitful than the MOSS talks.

Gretchen Green

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The views expressed in this report are those of the authors and do not necessarily represent those of the Japan Economic Institute.

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JEI

REPORT

A Two-Part Report: A and B

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Uno Faces Challenging Summit

Prime Minister Sosuke Uno was sitting tight and lying low prior to heading to the July 14-16 summit meeting of leaders from the major industrial nations. His low-profile demeanor stemmed from a plethora of domestic events that have undermined what might have been a position of strength at the summit considering that until about one month ago he was foreign minister in the cabinet of former Prime Minister Noboru Takeshita. Among Mr. Uno's handicaps:

- He was regarded as a decided "second choice" to succeed Prime Minister Takeshita. On top of his relatively weak domestic political power base (he is the only prime minister in the Liberal Democratic Party's 34-year history who is not a faction head), Mr. Uno was viewed skeptically because of his prominent position in the faction headed by former Prime Minister Yasuhiro Nakasone, who was tainted in the Recruit Co., Ltd. scandal. Ruling party elders chose Mr. Uno in the hope that his noninvolvement with Recruit, political seniority and diplomatic experience could restore public faith in the LDP and begin to stabilize the domestic political climate in anticipation of the July 23 upper house elections.

- He became the target less than a week into his administration of reports of sexual liaisons with geishas. This episode, coming so closely on the currency fluctuations, but he did not agree to any specific measures. Rather, he simply stated that Japan will address the problem.

ASEAN officials also repeated an oft-heard request that Japan increase its investment in the region. Although Japanese firms have expanded their presence in Southeast Asia significantly in the past five years (see Figure), ASEAN members want more investment to take the form of joint ventures with local firms. They also have urged Japan to establish manufacturing rather than assembly ventures so that Southeast Asian countries can acquire the necessary technologies to promote economic development.

In short, the issues addressed at the Brunei conference were hardly new. Cambodia, Pacific cooperation and Japan-ASEAN economic relations have been discussed repeatedly in recent years. But the participants were well aware that they are closer now than they have been in a long while to making substantial progress on at least two of the issues: Cambodian peace and a Pacific Rim organization. At the very least, they have begun to discuss the types of frameworks they will need to formulate specific agreements.

Eileen M. Doherty

FY 1990 Spending Guidelines Set

Getting a jump on politically significant domestic and international events, the cabinet of Prime Minister Sosuke Uno approved guidelines July 11 for the fiscal 1990 general account budget. After initial consultations with major ministries, the Ministry of Finance clamped down hard on discretionary spending so a FY 1990 issue of deficit financing bonds will be unnecessary. Significant exceptions to this tough spending rule will help to translate the budget outline into a second year of moderate fiscal stimulus.

MOF is rushing preparations for the FY 1990 fiscal budget out of a concern that the government and the ruling Liberal Democratic Party will be too engrossed in political developments later this summer to devote full attention to the budget. Both the cabinet of Prime Minister Uno and other members of the LDP are reeling from the effects of the Recruit Co., Ltd. influence-buying affair and charges of private misconduct by Mr. Uno. The LDP lost a prefectural governorship that previously was considered safe and took a beating in recent Tokyo municipal elections (see JEI Reports No. 25B, June 30, 1989, and No. 26B, July 7, 1989). Political commentators now are focusing on the summit of leading industrial nations, which opens July 14, and the July 23 elections for the upper house of the Diet.

In the meantime, MOF has proposed that central government outlays for public works and other investments in the April 1990-March 1991 period be frozen at FY 1989 levels. Expenditures for administration and all other operations are to be cut by 10 percent, according to the MOF spending plan. As it has in the past MOF will exempt certain spending categories from its budget knife, including defense, foreign aid, pensions, personnel and science and technology promotion. This strict regime, MOF hopes, will allow the central government to avoid issuing more deficit-financing bonds. Flotations of this type of bond (as opposed to bonds tied specifically to public works projects) have declined rapidly over the past three fiscal years, falling from nearly Y5 trillion ($35.6 billion at Y140=$1.00) in FY 1987 to under Y3.2 trillion ($22.5 billion) in FY 1988 and to an estimated Y1.3 trillion ($9.5 billion) in the current fiscal period (see JEI Report No. 19A, May 12, 1989).

The Finance Ministry contends that this moderate spending policy will not affect overall economic growth adversely. Consumer spending and private nonresidential capital formation are expected to continue to drive domestic demand. MOF points to the decidedly mild reaction by the business community and consumers to the 0.75 percentage point increase in the Bank of Japan's discount rate as evidence of the expansion's robustness.

After consulting with the ministers of construction, health and welfare and foreign affairs as well as the head of the Japan Defense Agency, MOF submitted to the cabinet guidelines that will allow the following increases compared with the initial FY 1989 budget (see Table):

- Pensions will lead the increases, growing by Y520 billion ($3.7 billion) to Y11.4 trillion ($81.5 billion). The 4.8 percent increase represents over half of the growth in total discretionary spending.

- Defense spending will increase 6.4 percent or Y249 billion ($1.8 billion) to nearly Y4.2 trillion ($29.8 billion).

- Official development assistance will jump 9.4 percent or Y71 billion ($507.1 million) to Y826.7 billion ($5.9 billion).

FY 1989 and FY 1990 Initial General Account Budget Guidelines

(change from previous year in billions of yen)

	FY 1989	FY 1990
Discretionary Expenditures	Y910	Y1,032
Defense	227	249
Annual defense expenditures due to international treaties	148	131
Personnel	104	150
Social Welfare	505	560
Official development assistance	66	71
Energy measures	104	44
Annual science and technology expenditures due to international treaties	16	17
Special programs	70	170
Disaster preparedness	30	20
Administrative expenses	-360	-380
Capital investment	0	0
Proceeds from the Sale of NTT Shares	1,300	1,300
Public enterprises	1,200	1,230
Private enterprises	100	70

Source: Nihon Keizai Shimbun

Overall discretionary spending will rise 3 percent to Y35.1 trillion ($250.8 billion), just under FY 1989's 3.3 percent increase. This is a little lower than the Finance Ministry had expected; its initial soundings of other agencies yielded a 3.2 percent gain over current budget levels. Since this figure applies only to discretionary spending (total spending minus debt service payments and mandatory revenue-sharing with local governments), overall spending growth could be much higher. (In FY 1989 the total budget was 6.6 percent higher, for example.)

Under normal political circumstances all ministries and agencies would submit their initial budget requests by the end of August, and a final budget would be prepared by December. With the results of the upper house elections and the future of the Uno cabinet in doubt, MOF is trying to build extra time into the budget process should political affairs disrupt the normal process as they did in delaying final passage of the FY 1989 spending package. Election results unsettling to the ruling LDP could, however, force new budget priorities on MOF; repeal of the unpopular 3 percent general consumption tax is a widely discussed possibility. Even more than previous years, therefore, the preliminary budget guidelines must be seen as just that, preliminary.

Jon Choy

Surging Private Capital Spending Grabs Increased Share Of Funds

One of the most remarkable features of Japan's ongoing economic expansion has been the explosive growth in private plant and equipment spending, which has reached near-record levels in recent quarters (see JEI Report No. 26B, July 7, 1989). The means of financing this capital spending has shown commensurate expansion, with consequences for the rest of the economy.

Recently released Bank of Japan flow-of-funds statistics tell the story (see Table). These data describe the net position in financial terms of the

Japan's Financial Balance by Sector

(percent of nominal GNP)

	1965-74	1975-84	1983	1984	1985	1986	1987	1988
Corporate Business	-7.1%	-2.9%	-3.0%	-1.7%	-1.9%	-1.3%	-2.2%	-4.6%
Personal	9.4	10.3	10.3	9.8	9.8	10.2	7.9	7.6
Public	-2.6	-7.1	-6.8	-5.8	-4.2	-4.2	-1.4	0.6
Overseas	-0.7	-0.8	-1.8	-2.8	-3.6	-4.3	-3.6	-2.8
Balance*	1.0	0.5	1.3	0.5	-0.1	-0.4	-0.7	-0.8

*Rounding error and financial institutions.

Note: Minus indicates financial deficit (sector is net borrower from rest of economy).

Source: Bank of Japan

business, personal, government, financial institutions and foreign sectors of the Japanese economy. In effect, the sectors can be thought of as borrowing and lending to each other. The personal sector in Japan traditionally has a large surplus, a consequence of high household savings rates. The foreign sector, by contrast, in recent years has been a net borrower, indicating in part the huge capital outflow to the United States. Together, reflecting the principles of double-entry bookkeeping, all the sectoral imbalances add up to zero. In other words, the sources of funds by definition equal the uses of funds.

As corporations have increased their plant and equipment spending, they increasingly have pulled in funds from outside their sector. Financing from the other sectors increased among corporate businesses from a low of 1.3 percent of gross national product in calendar 1986 to 4.6 percent of GNP in 1988. But corporations were not alone in demanding more funds. Booming demand for mortgages in 1987 and 1988 was one of the main factors suppressing the flow of funds out of the household sector into others. As the table shows, the personal sector's surplus relative to GNP has declined sharply in the two most recent years.

With individuals and households supplying less, and corporations demanding more funds relative to GNP, changes in the public sector and the foreign sector made up the difference. (The net inflow into the remaining category, financial institutions, was small and changed little.) In everyday language, this implied that the government's budget deficit and the trade surplus both shrank relative to GNP in 1987 and 1988. The net supply of funds to foreigners declined to 2.8 percent of GNP in 1988, continuing a decline that began after a peak of 4.3 percent of GNP was reached in 1986.

The changed direction of funds was even more striking in the public sector. According to BOJ's broad-based measures, the government's net position -- including public corporations, local governments as well as the central government -- moved into surplus in 1988 for the first time since 1961. (Between 1962 and 1974 the central government generally was in surplus but not by enough to offset deficits at the local government level and in public corporations.) In 1988 the overall public-sector surplus came to 0.6 percent of GNP.

Japanese analysts attribute this somewhat surprising result to two factors. First, tax revenues grew rapidly, reflecting the expansion of the economy. Second, Tokyo has a long-term policy of restraining expenditures in order to rein in the deficit (see preceding article).

The BOJ figures are only one way of measuring the shift in the government's budget position. Recent estimates for Japan by the Organization for Economic Cooperation and Development and the Bank for International Settlements, which are based on data from the Economic Planning Agency, tell a story very similar to that of the BOJ data. According to the OECD and BIS figures, the central and local governments' budget position, including social security, registered a surplus in 1987 for the first time since 1974. This black ink is estimated to have reached 1.3 percent of GNP in 1988, a level high enough to make Japan number-three among the 24 OECD countries after Sweden and Norway. By comparison, the net U.S. federal, state and local government deficit, while improved in 1987 and 1988 from previous levels, still reached almost 2 percent of GNP. As recently as 1979, the United States managed a government budget surplus as measured by this OECD yardstick.

International comparisons, of course, are open to many criticisms. For example, additions to social security funds reduce government deficits or raise surpluses in many countries but should be treated separately for various purposes. In this case, however, their inclusion is appropriate to capture the fiscal impact of government spending.

Tracing cause and effect through the imbalances is difficult. For instance, the combination of a budget surplus in Japan with a trade surplus says little by itself about causation. In this case, as noted above, corporate demand for funds has been an important third factor. Through the end of 1988, at least, the surge in plant and equipment spending more than offset the emerging budget surplus, keeping interest rates higher than otherwise. Relatively tight money, in turn, restrained the flow of capital out of Japan, keeping the yen stronger than otherwise. As a result, exports were weaker, imports stronger and the current account surplus smaller than it probably would have been in the absence of the capital spending boom.

Will this pattern of intersector flow of funds and related international transactions persist in 1989? That depends, in part, on what one believes about capital spending in Japan. If, as expected, it rises moderately, then the 1988 pattern could be repeated, with little change in sectoral imbalances. But, if corporate spending should collapse, all bets are off on the direction of the yen and the trade balance. In a worst-case scenario for international economic policymakers in Tokyo and Washington, the improvement in the competitive position of Japanese firms that results from the new plant and equipment spending could coincide with a drop in that spending. Given the improbability that the government would acquiesce to budget deficits after struggling for so long to reduce them, investments abroad would take on more appeal. This, in turn, would pose unpleasant policy implications for the yen, which could fall, and the current account surplus, which could rise.

Douglas Ostrom

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The views expressed in this report are those of the authors and do not necessarily represent those of the Japan Economic Institute.

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REPORT

A Two-Part Report: A and B

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U.S. FOREIGN ECONOMIC POLICY OUTLOOK: THE VIEW FROM CAPITOL HILL

Summary

With passage of the 1988 Omnibus Trade and Competitiveness Act last August, Capitol Hill has turned its attention to issues that are more domestically focused. Yet as the search for ways to lower both the budget and the trade deficits goes on, lawmakers continue to express concern about the question of American competitiveness. The concept of economic security also is of increasing importance to legislators, who are writing legislation to help America meet international challengers. Helping the links between trade and defense to become more intertwined is a thaw in East-West relations, which allows Washington to concentrate on bolstering America's means to compete. This is taking place against a background in which shifts in trading patterns away from Europe and toward the growing economies in Asia has the United States reassessing the ways in which both it and its partners conduct trade. Thus, while trade matters do not have the same prominence in Congress this year that they had in 1988, the trade issue is inherent in much of the economic policy debate on Capitol Hill.

Overview

Congress last year focused on successful passage of the 1988 Omnibus Trade and Competitiveness Act. By contrast, the first session of the current Congress so far has been consumed by the issue of ethics in various forms -- the Senate with its critical examination of Secretary of Defense nominee John Tower and the House with its concerns over misconduct charges against Speaker Jim Wright (D, Tex.) and the personal finances of Majority Whip Tony Coelho (D, Calif.). Recently returned from the Fourth of July recess and with new democratic leadership in the House, Congress appears anxious to move forward with previously stalled matters.

Dominating current Capitol Hill concerns are such domestic problems as the savings and loan crisis and health care. These traditionally Democratic issues were simmering on the back burner during the Reagan years. Another key issue is the federal budget deficit. President Bush still does not want to raise taxes. The possibility of invoking provisions of the Gramm-Rudman-Hollings act to force a reduction in the deficit looms ahead. In hearings that began in July the appropriations committees have been trying to pare down authorizations.

With the current thaw in East-West relations and with arms control talks moving forward, the Bush administration, like Congress, is turning its attention to domestic issues, leaving the defense build-up that was a key priority of the Reagan White House to compete for funding with other areas on the budget-balancing scale. Nevertheless, the interplay between the administration and Congress over various domestic and foreign policy issues continues to keep trade and defense among Washington's top concerns.

Trade Bill

Congress spent over three years hammering out the details of the 1988 trade act. The process was slow and painful as amendments were offered, accepted or rejected. Much energy was expended on creating a bill that could gain enough support to pass in both houses and that was acceptable to the Reagan administration. Contentious amendments were proposed, often falling to defeat or being reshaped after vociferous debates. Among these were one sponsored by Rep. Richard Gephardt (D, Mo.) to penalize trade partners that run consistent trade surpluses with the United States and one by Rep. John Bryant (D, Tex.) to require more detailed information on foreign direct investment in this country (see JEI Report No. 38A, October 7, 1989).

Since passage of the 1988 trade act last August, legislators have been watching to see how the executive branch implements the measure. A number of trade oversight hearings on both sides of the Hill help Congress keep in touch with the various steps taken under the trade act. Only if a gap in policy appears are major new trade bills likely to materialize.

Free-trader Rep. Bill Frenzel (R, Minn.), a member of the trade subcommittee of the House Ways and Means Committee, which oversees administration of the trade act, believes that Congress lacks the energy for a new round of trade legislation. He adds that at this point no one wants to risk undermining the trade act on which Congress expended so much energy by crafting new measures. Mr. Frenzel said at an international economics conference in May that although he does not like the legislation, now that it is law, he would like to see it employed as effectively as possible. For the law to have persuasive powers with American trade partners, he said, U.S. policymakers need to stand behind the measure.

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Several legislators appear to be standing very close, watching the progress being made by U.S. Trade Representative Carla Hills and her staff on investigations and negotiations mandated by the trade act. So far Ms. Hills is winning their confidence (see JEI Report No. 24B, June 23, 1989). Following the letter of the law, USTR Hills identified U.S. trade-liberalization priorities and countries before the May 30 deadline. At the top of the list, responding to the strong sentiments of some in Congress, was Japan, cited for barriers to imports in three areas: government procurement of supercomputers and satellites and technical standards for wood products (see JEI Report No. 22B, June 9, 1989). Sens. Lloyd Bentsen (D, Tex.), chairman of the Senate Finance Committee, and John Danforth (R, Mo.) were outspoken about their desire to have Japan named. Sen. Danforth told Ms. Hills during hearings that the provision of the trade law dubbed Super 301 had been written specifically with Japan in mind.

Named along with Japan were Brazil for import restrictions that limit purchases of agricultural and manufactured products from abroad and India for barriers to insurance and performance requirements for foreign investment. All three countries have balked at being named and have tried to get international opinion to condemn the U.S. action. While Japan has agreed to enter trade talks with Washington, Tokyo has refused to negotiate under the Super 301 framework.

Also being watched closely in Congress is Japan's reaction to the White House's proposal of separate structural-adjustment negotiations, talks designed to get at the heart of generic or systemic Japanese trade barriers. Japan's distribution system is one such issue. Many in the administration and the American business community have pressed Tokyo to repeal the Large Retail Store Law, which they feel limits the growth of imports by making it difficult for big retailers -- the stores most likely to handle foreign-made products -- to expand (see JEI Reports No. 11A, March 17, 1989, and No. 24B, June 23, 1989).

The structural impediment talks are expected to be much more difficult than the negotiations on supercomputers, satellites and wood products. But these discussions may yield more long-term benefits for U.S. exporters by getting at problems that affect American competitors across-the-board. The international trade subcommittee of the Senate Finance Committee has scheduled initial hearings on the structural-adjustment initiative for July 20.

Oversight of these talks may be intermittent as Congress turns its attention to matters ignored when it was preoccupied by ethics charges and as Japan deals with its own domestic problems, including the political damages caused by the Recruit Co., Ltd. influence-buying scandal, which tainted most of the first tiers of leadership and toppled the government of former Prime Minister Noboru Takeshita. Japanese politicians are busy campaigning for the July 23 upper house elections, which offer the opposition parties collectively a chance to gain their first majority since Liberal Democratic Party dominance began in 1955. Progress on trade talks between the United States and Japan apparently will be left in the hands of bureaucrats.

New Directions for Legislation

A new direction in economic legislation, less directly linked with trade, may begin to emphasize ways to bolster American competitiveness. This is the type of legislation being discussed in the case of high-definition television, for example. Much of it involves shifts in government policies, including exemptions to antitrust laws to allow American companies to team up to manufacture and market in addition to doing joint research and development.

Legislators are concerned not only with America being behind Japan in the development of many cutting-edge technologies, such as HDTV, but with the long-term implications of this trend as well. Having seen foreign competitiors take technologies developed in the United States and commercialize them, such as what happened with videocassette recorders, lawmakers are leery of Japan or other countries moving too far ahead technologically.

Missed U.S. market opportunities are not the only reason for congressional concern about the competitiveness of American industry. The technologies discovered in the process of designing and developing a product may be more important than the product itself. HDTV technologies and their implications for the embattled semiconductor industry are a case in point. To many congressmen the potential spin-offs from HDTV research and development justify at least some direct government funding for this work (se JEI Report No. 19B, May 12, 1989). A precedent already exists. Congress appropriated $100 million for FY 1989 for the Sematech R&D consortium in the belief that the health of such an industry as semiconductors is vital to the defense industrial base and thus the security of the United States.

The linkages increasingly drawn on Capitol Hill between trade and defense were seen most clearly this spring during the fight over the FSX, Japan's next-generation fighter support aircraft (see JEI Report No. 21A, May 26, 1989). Many legislators no longer believe that the nation's military and economic security can be separated. In the FSX debate the major concern was not about losing military secrets to Japan but rather how the knowledge Japanese industry gained through the deal would find commercial applications.

Congress also has become more vocal about what it sees as the inequitable amounts of money the United States and its allies spend on world military security. This has become a pointed issue in regard to Japan, which is limited by its constitution to defensive outlays only. Tokyo also has followed a self-imposed ceiling of spending approximately 1 percent of GNP on defense.

Japan's decision to make official development assistance its major contribution to global security has raised another issue: powersharing. While willing to assume some military security burdens through foreign aid contributions, Japan would like to get greater recognition of its economic contributions by receiving more of a say in the leadership of international organizations that handle aid. It is unclear, however, whether Congress and the administration are willing to exchange powersharing for burdensharing. Between its foreign aid and its defense budget Japan spends approximately 1.32 percent of its gross national product on allied security -- a proportion that is considerably below the U.S. level of approximately 5 to 6 percent of GNP on defense annually and 0.2 percent in 1988 on foreign aid. This discrepancy and the problems posed by the enormous U.S. budget deficit may color future congressional debates on burdensharing and powersharing.

Shifting Trade Patterns

In the meantime, the traditional U.S. bent toward Europe is being rearranged through shifting trade winds toward Asia. Although the European

Community's 1992 integration has important implications for American businesses as they prepare for one common market, the rapid expansion of the Asian market in the 1980s has brought crucial changes in U.S. trade patterns. Along with these shifts have come sizable trade deficits, not only with Japan but also with a number of Asia's newly industrialized economies, such as Taiwan and South Korea (see Table).

The altered trade patterns suggest a new set of priorities for the United States. When the Asian nations were considered less developed countries, Congress and the administration were not overly concerned with how effectively international trade laws were enforced. Infractions or blatant disregard for international trade norms could be overlooked due to the low levels of trade. Now that these economies are growing exporters and have the potential to be important markets for U.S. suppliers of goods and services, people at both ends of Pennsylvania Avenue believe the United States can no longer afford such lenient attitudes.

Washington, for example, has become increasingly concerned about inadequate safeguards for intellectual property rights in some of the newly industrialized economies. Of the eight countries USTR named May 28 for priority reviews of intellectual property rights under a section of the 1988 trade law dubbed Special 301, five are Asian countries: China, India, South Korea, Taiwan and Thailand. Additionally, of the 17 countries placed on a watch list five are Asian, including Japan.

As the U.S. trade deficit mounts with Asian countries, lawmakers are certain to scrutinize the ways in which other countries improve their export competitiveness and protect their home markets. Many analysts wonder whether this concern with trade deficits will alter America's basic free-trade policies. Congress passed the 1988 trade act in order to bolster American competitiveness, but many free traders cite this law and other legislation as evidence that America is turning away from its tradition of open door, free trade and toward more protectionism. Free traders also express concern that the trade law is unilateral in nature, a shift away from the multilateral thrust of earlier U.S. trade policy. Along with major U.S. trading partners, Japan included, they have questioned whether particular sections of the legislation, notably the Super 301 measure, are consistent with the General Agreement on Tariffs and Trade.

USTR Hills has been careful to point out that the United States still stands behind the multilateral trading system and that the only unilateral action involved in the Super 301 announcement is the stating of U.S. priorities for trade negotiations. In fact, in announcing the designation of Japan, Brazil and India as Super 301 targets, the chief U.S. trade negotiator stated that this country's top trade-liberalization priority is the successful completion of the Uruguay Round of multilateral trade negotiations. But progress in the talks has been slow (see JEI Report No. 25A, June 30, 1989), and Washington has used the trade bill to gain leverage over certain U.S. trading partners. For example, concessions were wrangled out of Taiwan and South Korea as each tried to remain off the Super 301 hit list. South Korea gave ground on foreign investment, agriculture, product standards, testing requirements, customs procedures and import bans designed to foster local manufacturing. Taiwan agreed to reduce tariffs and liberalize insurance and banking laws. USTR Hills believes that actions such as these are beneficial to the multilateral trading system

U.S. Trade Balance with Major Trading Partners, 1984-88

(in millions of dollars; exports f.a.s., imports c.i.f.)

	1984	1985	1986	1987	1988
Total	$-123,289	$-148,480	$-169,777	$-171,217	$-139,539
Western Hemisphere	-40,766	-40,252	-36,364	-25,810	-21,981
Canada	-20,387	-22,176	-23,330	-11,696	-12,201
Mexico	-6,275	-5,757	-5,167	-5,938	2,901
Brazil	-5,633	-5,007	-3,455	-4,393	-5,687
Venezuela	-3,443	-3,431	-2,305	-2,295	-968
Colombia	197	12	-720	-1,003	-591
Western Europe	-16,902	-27,446	-32,655	-30,216	-17,040
United Kingdom	-2,834	-4,300	-4,614	-3,884	-337
West Germany	-8,726	-12,182	-15,568	-16,281	-13,089
Netherlands	3,224	2,901	3,485	3,981	5,221
France	-2,479	-3,864	-3,370	-3,233	-2,603
Belgium-Luxembourg	2,014	1,351	1,208	1,830	2,686
Italy	-4,129	-5,756	-6,473	-6,168	-5,495
European Community*	-13,291	-22,470	-26,366	-24,301	-12,822
Switzerland	-636	-1,291	-2,391	-1,212	-538
Spain	-66	-250	-341	47	747
Sweden	-1,885	-2,414	-2,766	-3,088	-2,512
Asia and Middle East	-63,158	-78,971	-96,031	-107,538	-96,438
Japan	-36,796	-49,749	-58,575	-59,825	-55,436
Korea	-4,044	-4,757	-7,142	-9,892	-9,920
Taiwan	-11,085	-13,061	-15,727	-18,994	-14,126
Singapore	-446	-936	-1,504	-2,342	-2,456
Hong Kong	-5,837	-6,208	-6,444	-6,507	-5,119
Saudi Arabia	1,555	2,447	-606	-1,513	-2,438
Israel	385	379	-267	406	180
Malaysia	-969	-860	-805	-1,157	-1,714
Philippines	-856	-955	-787	-882	-1,026
Thailand	-313	-694	-937	-833	-1,459
India	-1,167	-836	-928	-1,262	-669
Indonesia	-4,652	-4,138	-2,730	-2,952	-2,438
Australia and Oceania	1,860	2,229	2,578	1,976	2,943
Australia	1,894	2,372	2,679	2,208	3,125
Africa	-6,169	-5,155	-5,079	-6,396	-4,279
Egypt	2,522	2,239	1,859	1,712	2,097
South Africa	-312	-975	-1,318	-118	101
Nigeria	-2,029	-2,432	-2,272	-3,472	-3,179
Communist Countries	1,479	749	-2,322	-3,309	-2,952
China	-377	-368	-2,134	-3,413	-4,231
Soviet Union	2,684	1,980	642	1,010	2,119

*1986-88 figures include Spain and Portugal.

Source: Department of Commerce

since, once barriers to trade are removed, all countries will have better market access, not just the United States.

Also raising questions about the U.S. commitment to the multilateral trade regime is the attention being paid by Congress to free-trade agreements. As difficulties have appeared in the Uruguay Round negotiations, a number of legislators have proposed a broader context in which to resolve trade problems, most frequently some variation on a free-trade agreement. The successful conclusion of a free-trade pact with Canada and the coming integration of the European market also have spurred consideration of other partners or sets of partners for free-trade arrangements.

As the area with the largest overall amount of trade with the United States, the Far East has strong FTA candidates in either an individual country, such as Japan, or in a group of countries, such as the Association of Southeast Asian Nations (comprised of Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand). But a larger framework of economic unity, a Pacific version of the Organization for Economic Cooperation and Development, has gained in popularity among Asian countries (see JEI Report No. 26B, July 7, 1989).

Conclusion

Although Congress and the administration currently are focusing on domestic affairs, the interconnections of trade with domestic issues -- for example, the international competitive position of the United States -- make trade an important underlying concern of both branches of government. How to restore U.S. competitiveness in the world marketplace and subsequently reduce the trade deficit is one of the two major international economic issues on which Capitol Hill has been focusing in 1989, the other being implementation of the 1988 trade act. Lowering the U.S. trade deficit with Asia is the key to reducing the overall imbalance, and Congress will be monitoring the situation closely. Whether the concerns about the U.S. trade position will take Congress into new policy areas remains to be seen.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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A Two-Part Report: A and B

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THE CHANGING U.S.-JAPAN MICROCOMPUTER MARKET

Summary

While Japanese firms pose strong challenges to American competitors in several computer and computer-related fields, the rapidly changing dynamics of the U.S microcomputer market have shown that Japanese success is not inevitable. The market has been so dynamic that Japan's manufacturing expertise is not enough; successful firms combine flexible, low-cost manufacturing with strong research, software, marketing and distribution skills. Although the Japanese microcomputer market has lagged behind its U.S. counterpart for a number of technical and social reasons, it, too, is becoming increasingly dynamic. In terms of both hardware and software, the microcomputer market presents challenges to private firms and governments on both sides of the Pacific.

Introduction

The microelectronic revolution has squeezed the same amount of computational power and storage capacity that took up an entire room in the 1960s into a unit small enough in the 1980s to sit on a desk or even on a person's lap. Microcomputers have greatly increased a user's efficiency in performing such traditional tasks as mechanical engineering and all types of writing, printing, publishing and information management. But they also have brought many previously unmanageable mathematical tasks within easy reach. The role of microcomputers in everyday life can only expand in years to come.

As the computer revolution has evolved, distinctions among small, midrange and mainframe computers have blurred. The scope of this report is limited to home computers (units designed to use an ordinary television set to display information and possessing limited computational power), personal computers (stand-alone, portable or stationary units for home or business use), workstations (engineering-oriented machines) and small business systems (systems under $10,000 serving more than one user). Instead of focusing on each of these segments individually, trends affecting the group as a whole will be explored. Unfortunately, official government information is sparse on this topic and, while more plentiful, private data show a fair amount of variation.

A First Glance at the Market

An overview of the aggregate figures for the U.S. and the Japanese microcomputer markets reveals significant differences in size, total value and rate of growth. Until 1981 Apple Computer Inc. machines aimed mainly at home and educational users dominated the American microcomputer market. The August 1981 introduction of a personal computer by International Business Machines Corp., the leader in mainframe computer systems, lit a fire under the market by legitimizing the personal computer as a business tool for corporate America. The microcomputer market jumped from around $3 billion in 1981 to approximately $9 billion by 1984 and about $15 billion by 1986, representing an increase in unit sales from less than a million units in 1981 to 4.6 million in 1984 and about 6 million in 1986. Estimates for 1988 are in the $18 billion range, and projections for the current year cluster around $21 billion with unit volume at the 8 to 10 million level.

As can be inferred from these numbers, growth rates have slowed after making huge leaps in the early 1980s. From the 60 to 80 percent annual rates of expansion between 1981 and 1984, the market has settled down in the 15 to 20 percent range. Similarly, after accounting for the overwhelming majority of microcomputer sales in the early 1980s, personal computer sales have drifted down to about a two-thirds share, while multiuser systems account for about 15 percent and workstations about 10 percent.

Afflicted with several handicaps the Japanese industry has lagged significantly behind its U.S. counterpart (see Table). According to the Ministry of International Trade and Industry, the FY 1981 installed base of small business systems (systems valued at less than Y10 million or $71,400 at Y140=$1.00) was 59,000 units with a value of Y350 billion ($2.5 billion). Personal computers installed had reached about 377,000 units worth about Y137 billion ($979 million) that same year. The market experienced sharp growth in both volume and value terms for the next few years: FY 1984 shipments of small business computers hit 77,600 units worth Y390 billion ($2.8 billion), while domestic shipments of PCs reached 1.2 million, worth approximately Y302 billion ($2.2 billion). After two years of modest growth, these two market segments diverged, with small business systems resuming their strong growth and PC sales creeping upward. According to the latest data, the installed base of small business machines totaled 130,000 units as of March 31, 1988, worth Y1.1 trillion ($8 billion), and the personal computer market had reached about 2.8 million units, valued at Y833 billion ($6 billion). Despite solid growth, the Japanese market remains much smaller than its rival across the Pacific.

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Japanese Shipments of Personal and Small Business Computers

(value in billions of yen and volume in units)

Fiscal Year	Personal Value	Personal Domestic (1,000)	Personal Exports (1,000)	Small Business Value	Small Business Volume
1978	Y5.9	10	0	Y86.1	12,688
1979	15.9	46	10	146.3	20,828
1980	33.7	94	16	229.6	32,831
1981	107.0	227	53	306.7	50,073
1982	231.3	681	79	354.9	65,321
1983	341.6	890	250	382.8	73,280
1984	470.6	1,200	670	390.0	77,633
1985	555.2	1,190	790	428.7	105,365
1986	637.3	1,240	820	466.4	116,681
1987	696.0	1,300	900	510.0	130,000

Source: Ministry of International Trade and Industry

The Japanese Difference

Beyond the obvious point that Japanese makers of small computers got off to a later start than their American competition, there are four reasons why Japan's microcomputer industry has been handicapped:

- Japanese language requirements - While the English language is based on just 26 letters so that keyboards are manageable in size, adequate presentation of Japanese requires at least 7,000 ideographs and two sets of more than 50 phonetic symbols. Developing a keyboard system sufficiently small and easy to learn and operate has been a daunting task. Simply put, early small computers were incapable of handling the Japanese language, severely limiting their use. Within the past two years, however, a new generation of more powerful microcomputers combined with better display technology, larger and faster data storage devices and better programs have made Japanese word processing at least manageable if not easy.

- Communication media - Because no practical Japanese typewriters were developed, communication in Japan has been almost exclusively nontyped. The nearly complete diffusion of facsimile machines in Japanese offices derives from the need to exchange handwritten documents. Not only are Japanese not accustomed to using a keyboard, but they actually prefer handwritten messages because they are more personal. A computer on every desk remains a rare sight in Japan despite all the talk about office automation.

- Executive behavior - Japanese executives are less hands-on oriented than their American counterparts. While an American manager personally might employ computer models and tools in his daily routine, a Japanese manager will delegate such work to a subordinate. Since the boss does not use a computer, others may not be encouraged to do so. Moreover, Japanese executives have a penchant for complex visual presentation of data rather than dry numerical tables. Until recently the graphics capability of microcomputers was not up to this task. Recent improvements in graphics chips and display technology largely have addressed this requirement.

- Limited software availability - Despite similar origins the software industries in the United States and Japan have diverged significantly. At the beginning of the computer era, hardware manufacturers had to bundle software with their machines to sell them; there were few independent software companies. In the late 1960s, however, major U.S. computer makers began selling the software separately from the machines, opening the door for the development and proliferation of third-party software companies. In Japan this unbundling never occurred. Along with the machine, the seller provides the buyer with a team of software engineers to produce whatever programs are needed. Japanese customers have grown accustomed to receiving software as a bonus when purchasing a computer. Moreover, Japanese users expect custom software to be supplied. While third-party software houses dot the Japanese landscape, they are either "body shops" providing programmers to hardware customers or captive software suppliers to hardware companies. Only in the home entertainment market have strong independent software firms managed to take root.

The U.S.-Japan Experience Contrasted

These unusual characteristics of the Japanese market contrast with the American experience in a number of ways, ranging from computer standards and the firms competing in the marketplace to software availability. Since its entry into the PC market in 1981, IBM has set the industry standards in terms of specifications for a basic operating system and hardware interface. "IBM-compatible" computers quickly dominated the market and have held that position. (About 80 percent of all U.S. personal computers in 1988 fell into this category.) Apple has managed to fight back with its user-friendly Macintosh line of machines and represents a second standard in the U.S. market. The IBM standard has generated a plethora of innovative software, computational enhancements and peripheral equipment that meets the needs of every conceivable user at a reasonable price. Those who have seen the benefits of standardization at the microcomputer level are leading the calls for greater standardization throughout the entire range of computers.

The Japanese market, in contrast, was and remains fragmented. Each manufacturer has its own software and hardware specifications, limiting the market for third-party software and preventing users from linking microcomputers into networks. There have been attempts to establish industry standards. The first, based on a Japanese version of Microsoft Corp.'s BASIC programming language (MSX), foundered on the developer's inability to convince hardware makers to adopt it. The Japanese government was next with its Sigma software project. While Sigma was aimed at creating automated software development tools, a desired byproduct was the adoption of a computer language standard by Japanese hardware makers. Sigma and its successor will be discussed further on, but suffice to say here that it has met with limited success as a standardization effort.

The latest attempt arises from a group of hardware makers attempting to break NEC Corp.'s leading PC market position by offering a hardware/software standard called AX. Based on IBM's PC AT hardware, the new standard uses Microsoft's MS-DOS (the operating system for IBM-compatible machines), which has been specially modified to handle the Japanese language. AX computers are beginning to hit the shelves, making it premature to judge success or failure. Paralleling these overt trends, most Japanese manufacturers now offer unmodified IBM-compatible computers in the domestic market, creating a market standard by default. The explosion of software and hardware options that took place in the United States, however, may be some time in coming to Japan -- to the detriment of users.

Market compartmentalization also shows striking U.S.-Japan group differences, reflected in the market shares of various firms in Japan. According to a survey by Nihon Keizai Shimbun, Japan's leading economic newspaper, NEC held the dominant position in Japan's PC market in 1988 with a 52.3 percent market share, followed by Fujitsu, Ltd. (13.6 percent), Seiko Epson Corp. (10.1 percent), Toshiba Corp. (9.8 percent) and IBM Japan Ltd. (6.5 percent). Interestingly, foreign and small computer makers are a negligible force in Japan (only about 8 percent) whereas in the United States a few firms -- IBM (with about 25 percent), Apple (9 percent) and Compaq Computer Corp. (7 percent) -- hold relatively large market shares and are followed by a horde of domestic and foreign firms, each with a small slice of the pie.

In Japan's small office computer segment, the 1988 ranking was somewhat different: Fujitsu (with a 26.2 percent share) held a slim lead over NEC (24.9 percent) but was far ahead of the remaining big players -- Toshiba (8.9 percent), IBM Japan (8.2 percent) and Mitsubishi Electric Corp. (8.1 percent). Stronger offerings in this market by foreign companies, such as Digital Equipment Corp., NCR Corp., Unisys Corp. and others, is represented by their 23.7 percent market share.

With regard to specialized word processors, the Japanese market is still more competitive: Sharp Corp. led with a 19.7 percent share, not far ahead of Toshiba (13.3 percent), Matsushita Electric Industrial Co., Ltd. (11.8 percent), NEC (11.6 percent) and Canon Inc. (9.9 percent), leaving 33.7 percent for other makers. The market for dedicated word processors (2,420 million units) actually exceeded that of personal computers (2,100 million units) in 1988, according to the survey.

As might be inferred from the previous discussion about the Japanese software market, custom software plays a much larger role in Japan than in the United States. While off-the-shelf programs for spreadsheet, graphics and word processing functions, among others, are established firmly in the American microcomputer market, customization of these packages is not uncommon in Japan. Independent software houses have to compete for personnel and business against the in-house programmers of deep-pocketed hardware manufacturers. Not surprisingly, this unequal contest has led many independents to close or become subcontractors to hardware firms. A relative dearth of software is a natural consequence of this concentration; about 8,000 programs, for example, have been written for the top-selling NEC line of PCs since their introduction in 1982, while most other makers claim 1,000 or 2,000 programs for their machines. Contrast this with the tens of thousands of programs developed for IBM-compatibles in the United States, Europe and Asia.

American firms became seriously interested in the Japanese market around 1986. Lotus Development Corp., Ashton-Tate Co. and Microsoft had high hopes for their products, which already dominated the U.S. market. The Japanese bias against packaged software has prevented any runaway successes, but the three have built respectable market positions by modifying their software to meet Japanese preferences.

The Japanese Challenge?

As they built dominant positions in markets for semiconductor memories, electronic components and computer peripherals, Japanese firms gained reputations as juggernauts, gobbling up market share with their manufacturing expertise and willingness to suffer short-term losses. It is no wonder that many Japanese and American analysts predicted that the U.S. microcomputer market was the next course on Japan's plate. This hardware challenge, the predictions read, would be followed up by growing software competitiveness as Japan's programming industry got up to speed. The reality, to date, has been very different. While Japanese firms continue to seek a winning strategy, the Japanese challenge has yet to emerge.

Clone wars - The development that was to provide Japanese firms with an entree to the U.S. hardware market was the domination of a market standard, namely IBM-compatibility. The establishment of a standard supposedly would negate the innovative edge held by American firms and allow the Japanese to apply their manufacturing expertise to a now commodity-like product. In the early 1980s the belief was widespread that Japanese firms would take over the IBM-compatible market.

Japanese manufacturers, however, failed to realize how dominant the IBM standard would become. Japanese makers continued to push their own proprietary or non-IBM compatible gear until they realized they had been left behind. By that time, however, a significant number of non-Japanese sources for components and subassemblies had cropped up. By importing components from Taiwan, South Korea, Mexico and other low-cost nations, even small American companies could assemble high-performance IBM-compatible systems at prices that at least matched, if not beat, those charged by Japanese firms. In 1984 the only Japanese hardware supplier to have a respectable U.S. market share was Epson, at about 4 percent. Two years later Epson was still the only major Japanese maker in the top ranks, but its market share had fallen to 3 percent. In 1988 Epson had faded from the picture to be replaced by NEC, Toshiba, Fujitsu and Matsushita. But even these Japanese giants could place no higher than seventh among the top 15 revenue-earners in U.S. microcomputer sales.

It became clear that efficient manufacturing was not enough. American firms capitalized on better marketing and wider distribution channels to frustrate the Japanese on U.S. turf. Standardization also took away the edge Japanese firms had gained for better quality. Tandy Corp.'s line of IBM compatibles offered through its vast Radio Shack network of stores initially was discounted by industry analysts. By emphasizing low prices and comparable performance, however, Tandy has carved out a solid market position.

Even though the IBM standard has continued to dominate, it has evolved to keep pace with technological progress. Here, too, the Japanese have proved less than nimble. Usually known for their ability to leapfrog competitors in terms of technology, Japanese firms proved no match for IBM or aggressive clone makers like Compaq. With key components, such as microprocessors and basic operating programs, out of their control, Japanese firms were unwilling to leap ahead for fear of making a mistake, being unable to influence the market and becoming isolated.

A shortage of basic memory chips in the 1986-88 period opened a window for vertically integrated Japanese manufacturers. As prices for DRAMs (dynamic random-access memories) shot up in the wake of the July 1986 U.S.-Japan semiconductor accord and a recovery in worldwide demand, U.S. computer makers were forced to hike price tags and/or cut back on output. Japanese firms that produced both DRAMs and PCs used the advantage of their vertically integrated structure to aggressively pursue price-conscious U.S. buyers.

The situation was reversed in April 1987 when President Reagan ordered 100 percent penalty tariffs on imports of Japanese 16-bit and 32-bit computers because of Tokyo's failure to fully enforce the bilateral semiconductor agreement. The sanctions, which still are in effect, have hobbled Japanese efforts to respond to the latest generation of competitors' offerings. In an effort to get around the sanctions, some Japanese makers have set up local production facilities or signed contracts with domestic manufacturers to produce computers for U.S. sale under Japanese nameplates.

On Your Lap, Get Set, Go - The rapidly growing market for battery-powered laptop computers is supposed to be even more suited to the strengths of Japanese firms than the IBM-compatible market was. Japanese semiconductor makers consistently have emphasized reducing the power consumption of their products. Combined with Japanese technological leads in battery technology, computer peripherals and display technology, the laptop market was seen as Japan's oyster. And, indeed, it was the early 1987 introduction by Japanese companies of more legible, high-contrast liquid crystal display screens that gave a boost to the market and put them at the top. Sales of laptops in 1987 jumped to about 500,000 units worldwide from about 175,000 units just two years before. Estimates for 1988 (700,000 units) were very rosy, and the projections for this year (over 1 million) are even better.

After taking a large lead in market share, however, Japanese firms now face able competition. Both Zenith Data Systems Corp. and Tandy initially bought their products from Japanese competitors. While Tandy has maintained ties with Japanese producers, Zenith now makes its own laptops in the United States. Zenith's innovative display technology and aggressive pricing brought it into a neck-and-neck battle for first place with Toshiba in 1988 laptop sales. NEC, with its 1988 introduction of a laptop about one-half the size and one-third the weight of previous models, is making a strong bid for market share. The market is quite fluid as major U.S. makers, such as IBM and Apple, have ignored the market or stumbled with unexciting products.

A host of American start-ups is bringing to market even smaller models. Poqet Computer Corp. of Sunnyvale, California hopes to introduce by August an IBM PC XT-compatible unit measuring 8.7 inches by 3.9 inches by 0.75 inches and weighing about 1 pound. Toshiba has introduced a notebook-sized unit that is expected to be matched by Zenith and other competitors. The point is that American firms have taken a page from Japanese manufacturers by staying ahead technologically while paying attention to production efficiency. What looked like a made-for-Japan market has turned out to be anything but that.

A Tough CASE - While microcomputer hardware roughly has doubled its available power every two years, computer software has not been able to keep pace. Without programs that take advantage of its greater capabilities, advanced hardware is pointless. The majority of today's computer programs still are produced a line at a time by human writers. When programs were relatively small and simple, one or a few people could produce a working product within a reasonable time. Current microcomputer users, however, demand programs of such complexity and performance that programming the old way becomes impossible. Long delays in bringing programs to market and error-laden programs are unfortunate realities today. Programmers are pursuing several solutions to counter the problems of complexity and reliability. Libraries of tested, error-free program modules are being assembled. By linking together these easily understandable, proven building blocks, groups of programmers can assemble workable programs in less time.

To further aid this process computers themselves are being called upon. Computer-aided software engineering or CASE is a rapidly growing field in the United States. In Japan, on the other hand, both the modular approach to programs and CASE have been a goal for some time. The modular orientation appeals to Japanese firms because it fits naturally with their group approach to software. Modular languages allow programmers to divide up their task into manageable pieces with a reasonable assurance that the whole thing will work when the modules are hooked together. CASE, on the other hand, responds to the lack of programmers in Japan. The Ministry of International Trade and Industry consistently has projected that there will be a shortage of programmers in Japan through the year 2000. By developing computerized programming techniques, this shortage can be negated.

MITI's Sigma project was the first government-backed CASE project. By the end of FY 1989, Tokyo will have spent about Y25 billion ($179 million) on the five-year project to develop CASE tools for programmers. Interestingly, Sigma employs a version of American Telephone and Telegraph Co.'s Unix operating system that allows compatibility with a wide range of hardware. Sigma workstations and a central database of tools and guidelines have been developed and are being tested. Their real test, however, will be whether Japanese companies pay for and use the results of Sigma.

Taking the next step MITI launched the Super Sigma project this fiscal year. With an initial funding of Y100 million ($714,000), the goals of the project are to develop programs that will write other programs more quickly and better than humans and to develop a programming language simple enough for non-programmers to use. Applying artificial intelligence to programming is a daunting task that few American companies are attempting. Instead, Americans are trying to develop CASE tools to support and complement their already strong software capabilities. Programs that churn out a rough working program or ones that do much of the tedious writing are favored goals. Programs that can find errors also are a high priority. It is far too early to tell if the American or the Japanese approach will succeed. The efforts do underscore the importance of software, however.

A TRON to nowhere? - As part of its catalog of foreign trade barriers compiled under the 1988 Omnibus Trade and Competitiveness Act, the Office of the U.S. Trade Representative expressed concern about Japan's government-industry project to develop a 32-bit microprocessor architecture. The sudden spotlight on the TRON project highlighted Japan's attempt to counter its weakness in microprocessors and in operating system software for microcomputers.

The TRON project grew out of a 1983 report by the operating systems working group of the microcomputer technology committee of the Japan Electronic Industry Development Association, a quasi-governmental organization. Reflecting the current and the future needs of Japanese microcomputer users, the Real-Time Operating-system Nucleus project was launched in June 1984. Located at Tokyo University, the project brought together academics, seven computer makers (Fujitsu, Hitachi, Ltd., Matsushita Electric, Mitsubishi Electric, NEC, Oki Electric Industry Co., Ltd. and Toshiba) and the then government-owned Nippon Telegraph and Telephone Public Corp. In the words of TRON director Ken Sakamura, an associate professor of information science at the university, "The TRON project has a very broad agenda. Its tangible products will be basic operating system software and a new dedicated 32-bit microprocessor. But we also want to develop a whole new computer culture, including new support systems and user environments and a standard education system." According to the professor, TRON has four guidelines:

1. TRON will be based on new hardware technology suitable to the 1990s -- a new architecture not compatible with past systems, implemented on a new microprocessor.

2. Both the operating system and all applications arising from it must operate in real time.

3. Design rules for programs will be separate from applications, creating an open system for all to use.

4. Ease of learning and use are key concepts. While hardware may differ slightly, all TRON programs must have a similar user interface.

In 1986 the project became more focused with the establishment of the TRON Association, a semiprivate organization deriving its funds in equal shares from MITI and the private sector. While the core consists of the seven computer companies plus NTT, membership has been open to anyone for a nominal fee. The project was divided up quickly into several software and hardware components: ITRON or industrial TRON for use in automated manufacturing; business TRON or BTRON for personal computers and workstations; central TRON aimed at linking ITRON and BTRON through larger computer systems; macro TRON to link all TRON units into a network; and STRON for supercomputer applications. In addition to the basic TRON microprocessor, hardware tasks include developing TRON-based graphics chips and developing better keyboards and other input devices.

By 1986 NEC had developed an ITRON microprocessor, while Hitachi, Mitsubishi Electric and Fujitsu had designed ITRON programs for American microprocessors (Motorola Inc.'s 68000, National Semiconductor Corp.'s NS 32000 and Intel Corp.'s 80286, respectively). Hitachi and Fujitsu followed up by unveiling a high-performance BTRON microprocessor in January 1988. That same month NTT, which is responsible for developing CTRON by combining it with the communications link formerly named macro TRON, specified that future generations of telephone switching equipment must use TRON. In mid-1988 the Center for Educational Computing, a government-private organization, made a preliminary recommendation that Matsushita's 16-bit computer based on BTRON architecture be adopted as the standard computer for educational use in Japan. These last two announcements set off warning bells in Washington.

During talks with their Japanese counterparts in September 1988 senior American trade officials charged that the educational computer center's selection of Matsushita locked out all foreign competitors. Apple, particularly, was concerned over losing a chance at Japan's huge education market. NTT's CTRON requirement also drew U.S. fire. Because American analysts feel that TRON offers no advantages over existing operating systems, such as AT&T's Unix, IBM's OS/2 or Microsoft's Windows, the project has gained more sinister overtones in some eyes. The real purpose of TRON, they fear, is to end American dominance of the high-performance microprocessor market.

Japanese officials are perplexed by the American position. Not only is the TRON Association open to all interested parties, but IBM Japan and 13 other foreign firms are part of the group. The Japanese subsidiaries of IBM, Unisys and Intel also are members of the Center for Educational Computing and voted in favor of adopting TRON for educational computers. TRON was designed specifically to be an open system, the project head argues, adding that if American firms are not interested in getting in on the ground level, they should not complain later. NTT has responded to criticism both by pointing out that no standards for the next generation of switching equipment have been set and by welcoming foreign participation in developing TRON-based gear. Nevertheless, in the face of USTR's listing of TRON in its catalog of Japanese barriers to U.S. exports, CEC has backed down and probably will endorse Microsoft's MS-DOS as the standard operating system for educational computers. This will not, however, put an end to Japan's search for an alternative to dependence on American microprocessors and operating systems.

Outlook

The outlook for microcomputers in Japan and the United States is bright but filled with opportunities for conflict as well as cooperation. Better hardware and software will invigorate the Japanese personal computer market, and analysts are predicting annual growth of 20 to 30 percent for the next few years. (These same analysts have been overly optimistic in the past, however.) The American market, meanwhile, will remain dynamic as the industry grapples with important issues.

- Software standards - Ironically, the desire to achieve a universal hardware and software standard is a major topic in the United States. Groups have formed around MS-DOS, OS/2 and Unix in regard to software. Microprocessor makers, particularly in the reduced-instruction set computing (RISC) segment, are battling fiercely to develop loyalty for what remain incompatible products. The results of these contests will determine the landscape of the market, if only for a few years.

- Laptop market - While the current battle among laptop makers is fierce, it may look like little more than a skirmish compared to future battles with makers of desktop machines. If laptop makers can offer a product with all the performance of a desktop model at a competitive price, users may be willing to trade their fixed computers for something more mobile. The planned entry of Apple and the persistent efforts of IBM and Compaq to develop viable portable models not only will enliven the laptop market but hasten the face-off with the desktop market.

- Group software and networking software - Software designed to allow microcomputers to exchange files and other information back and forth is well-developed in the United States and becoming accepted in Japan. The next generation of programs is targeted at working groups, allowing several microcomputers to work on the same document at the same time or to assemble a final project from separate pieces easily and effectively. Students of Japan will recognize immediately that this group-oriented approach is ingrained in almost every aspect of Japanese life, including corporate operations. Group software is ideally suited to Japan, creating an opportunity for American software companies and attracting strong Japanese competition.

If one axiom is applicable to the microcomputer market, then it is that success and failure do not play favorites. Giant companies, such as IBM, AT&T, NEC and Fujitsu, as well as small start-ups have equal potential to stumble or to hit a home run. The U.S.-Japan microcomputer market will continue to surprise and confound both companies and governments alike.

For further information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

A Two-Part Report: A and B

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Uno Resigns After LDP Election Setback

After barely two months in office Prime Minister Sosuke Uno said July 24 that he would resign to accept responsibility for the ruling Liberal Democratic Party's most devastating electoral defeat in its 34 years in power. Trounced in the July 23 House of Councillors elections, the LDP won only 36 seats of the 126 contested, well below the 54 seats the ruling party needed to maintain its majority in this chamber. In an unprecedented show of strength the Japan Socialist Party, the country's largest opposition party, won 46 seats, more than double the 22 seats it had at stake in the election.

This outcome marks a watershed in postwar Japanese politics; at no other time in its 34-year history has the LDP not controlled both houses of the Diet. Moreover, ruling party candidates went down to defeat in many rural districts that until recently were considered inviolable LDP strongholds. These results would appear to reflect in particular the extreme unpopularity of the LDP-led predicted that the furor would pass soon. They argued that, while prices naturally would jump reflecting the new tax, they would not rise subsequently at a faster rate than they had before the tax. And, of course, some prices on items with a reduced tax rate would fall significantly. The overall effect, analysts projected, would be a one-time jump of less than 3 percent in the price level.

Almost four months after the tax was implemented, some of these predictions have been borne out; an evaluation of others has been rendered difficult by complicating factors. An analysis by the Economic Planning Agency shows a pattern of price increases that conformed to rates of change in indirect taxes. For example, five newly taxed service categories rose in price 2.8 percent in April compared to the month before, 0.5 percent in May and 0.2 percent in June for a total increase over the three months of 3.5 percent. By contrast, for five categories of consumer durables where taxes were reduced, prices fell 6 percent in April, another 0.3 percent in May and 0.1 percent in June for a total drop of 6.4 percent.

Overall price levels have shown a fairly predictable pattern as well. In April wholesale and retail prices rose by 2.5 percent and 2.4 percent, respectively, over year-earlier levels, reflecting in both cases about a 1.5 percentage point jump over the previous annual rate of increase. As such, the figures were in line with forecasts. However, both indexes showed continued rates of increase above the underlying rate in May. While consumer price figures in June appeared to show a return to relative price stability, wholesale prices that month continued rising faster than they had prior to April 1.

However, the depreciation of the yen, a process that began late last year and continued at least through early summer, was no doubt responsible for some of the upward movement in the wholesale price index. Even with taxes and exchange rates pushing the same direction, the results were less than catastrophic. Wholesale prices in June were running 3.7 percent ahead of a year earlier, a good performance by the standards of most countries -- if not Japan's, which has become accustomed to year-to-year declines in overall wholesale prices.

And what of the arguments for social equity that were one of the reasons for the tax in the first place? Japanese voters obviously have vetoed this line of thinking. Opposition party leaders already have said that repeal of the consumption tax will head their agenda when the Diet reconvenes. The ruling Liberal Democratic Party also has left the door ajar to major changes in the tax. In its present form the tax appears headed for an early demise -- as does the career of any Japanese politician who strongly supports it.

Douglas Ostrom

Japan's Trade Surplus Dips

Normally, both sides of the Pacific would cheer news that Japan's trade surplus on a customs-clearance basis had fallen. The data for April through June show that Japan's dollar-denominated surplus of exports over imports was 8.7 percent smaller than the year before (see Tables). Furthermore, the improvement was enough to offset the previous quarter's widening gap, leaving the surplus for the first six months of 1989 a scant 0.7 percent below the January-June 1988 level. Additionally, at least one unusual factor may have worked to

Japan's Total Trade in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$170,114	15.8%	$136,503	8.0%	$33,611
1985	175,638	3.2	129,539	-5.1	46,099
1986	209,151	19.1	126,408	-2.4	82,743
1987	229,221	9.6	149,515	18.3	79,706
1988	264,917	15.6	187,354	25.3	77,563
1987: I	51,464	13.1	31,977	-3.1	19,487
II	56,931	7.1	36,380	15.8	20,551
III	57,855	5.6	38,346	27.2	19,509
IV	62,972	13.0	42,812	34.5	20,159
1988: I	60,279	17.1	44,505	39.2	15,774
II	65,179	14.5	47,260	29.9	17,919
III	67,169	16.1	47,258	23.2	19,911
IV	72,291	14.8	48,331	12.9	23,960
1989: I	68,247	13.2	51,147	14.9	17,100
II (p)	67,586	3.7	51,217	8.4	16,369

Japan's Total Trade in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y40,325	15.5%	Y32,321	7.7%	Y8,004
1985	41,956	4.0	31,085	-3.8	10,871
1986	35,290	-15.9	21,551	-30.7	13,739
1987	33,315	-5.6	21,737	0.9	11,578
1988	33,939	1.9	24,006	10.4	9,933
1987: I	7,960	-8.2	4,959	-21.7	3,002
II	8,153	-10.6	5,207	-3.6	2,946
III	8,507	-1.5	5,644	18.6	2,864
IV	8,694	-1.9	5,928	17.2	2,767
1988: I	7,713	-3.1	5,688	14.7	2,025
II	8,163	0.1	5,918	13.6	2,246
III	8,924	4.9	6,280	11.3	2,644
IV	9,139	5.1	6,121	3.3	3,018
1989: I	8,707	12.9	6,516	14.6	2,191
II (p)	9,220	12.9	6,987	18.1	2,233

Source: Ministry of Finance

Japan's Trade with the United States in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$59,937	39.9%	$26,862	9.0%	$33,075
1985	65,278	8.9	25,793	-4.0	39,485
1986	80,456	23.3	29,054	12.6	51,401
1987	83,580	3.9	31,491	8.4	52,090
1988	89,634	7.2	42,037	33.5	47,597
1987: I	18,001	7.8	6,986	11.3	11,015
II	21,181	1.2	7,592	-8.6	13,589
III	21,628	1.6	8,252	9.7	13,376
IV	22,770	5.6	8,660	24.7	14,110
1988: I	19,859	10.3	10,090	44.4	9,769
II	21,610	2.0	10,458	37.8	11,152
III	23,056	6.6	10,667	29.3	12,389
IV	25,109	10.3	10,821	25.0	14,288
1989: I	22,728	14.4	11,566	14.6	11,162
II (p)	22,996	6.4	12,050	15.2	10,946

Japan's Trade with the United States in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y14,221	39.7%	Y6,364	8.7%	Y7,858
1985	15,583	9.6	6,213	-2.4	9,369
1986	13,564	-13.0	4,918	-20.9	8,646
1987	12,148	-10.4	4,582	-6.8	7,566
1988	11,487	-5.4	5,388	17.6	6,099
1987: I	2,786	-12.7	1,083	-9.9	1,703
II	3,034	-15.5	1,086	-23.6	1,948
III	3,180	-5.2	1,215	2.1	1,965
IV	3,148	-8.2	1,198	8.5	1,950
1988: I	2,541	-8.8	1,290	19.1	1,251
II	2,706	-10.8	1,309	20.5	1,397
III	3,063	-3.6	1,418	16.7	1,645
IV	3,177	0.9	1,371	14.4	1,806
1989: I	2,900	14.1	1,474	14.2	1,426
II (p)	3,139	16.0	1,646	25.7	1,493

Source: Ministry of Finance

temporarily widen the surplus, thus making the figures seem, if not a policymaker's dream, at least enough to permit a small celebration, especially in light of concerns based on first-quarter results. The current figures include results for April when the new consumption tax was introduced, which probably had the temporary effect of slowing import growth and widening the surplus.

Americans, perhaps, would have somewhat less to celebrate than others at any hypothetical party. The bilateral imbalance with the United States barely moved, down a mere 1.8 percent in dollars in the April-June quarter while rising in yen during the same period and increasing in both yen and dollar terms for the first six months of this year.

On reflection, however, anyone hoping for a continuing decline in Japan's surplus might want to cancel the celebrations. The consumption tax was not the only unusual factor affecting the figures; most of the others were less encouraging for the direction of the imbalance. Most obvious was the yen's weakness in the quarter, when it depreciated 8.4 percent on a year-to-year basis against the dollar. On a dollar basis, the effect was to reduce the measured growth rate of both imports and exports. Since exports are larger, on balance the decline in the surplus was larger than it would have been in the absence of currency movements.

Importers raised yen-denominated prices in response to the yen's weakness but, less predictably, hiked them in dollar terms as well. Together, these price changes lifted the yen value of imports while leaving volume little affected during the April-June period. These price changes are the reason imports reflect increases of 8.4 percent in dollars over the year's span and 18.1 percent in yen but only 3.5 percent in volume.

In export markets the growth was 3.7 percent in dollars and 12.9 percent in yen compared to a year earlier. The dollar figure was less than the 4.2 increase in volume, which suggested that Japanese exporters may have been able to cut dollar-denominated prices in foreign markets slightly. Furthermore, the volume growth of exports exceeded the volume growth of imports. If quantity is a better measure than yen or dollars for some purposes, such as assessing the extent to which Japan is moving toward domestically led growth, the figures are not reassuring to those who fear that the process already has stalled.

The apparent hikes in import prices and the cuts in dollar-denominated export prices also have unfavorable long-term implications for the direction of the dollar-denominated surplus. As American and other foreign buyers adjust to the new prices over time, they can be expected, other factors being equal, to increase their purchases of Japanese exports compared to present levels. The same kind of thinking will lead Japanese buyers of imported products to reduce their purchases in response to higher prices. In other words, the current figures, while superficially favorable, contain hints that -- exactly as feared -- Japan's trade surplus could start growing again.

Douglas Ostrom

Supermarket Shopper Shakes Japan's M&A Market

As local and international interest began to dim regarding U.S. corporate raider T. Boone Pickens' unwelcomed purchase of a big share of a Japanese

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JEI

REPORT

A Two-Part Report: A and B

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JAPANESE HOUSING: THE INTERNATIONAL DIMENSION

Summary

The distinctive architecture and other characteristics of Japanese houses have fascinated Westerners for centuries. Today Washington has a different kind of interest. Japanese demand for housing has both macroeconomic and microeconomic dimensions that in the view of some American policymakers should be changed to reduce the U.S.-Japan trade imbalance. While progress was made in 1987 and 1988 on the macroeconomic dimension as housing starts boomed, discussions are just beginning between the two countries on microeconomic questions, such as imports of wood products and land-use policies that, among other effects, may be related to the demand for housing in Japan. Some American policymakers appear to have unrealistic notions as to how Japanese housing demand is likely to change and how any change that does occur would affect the bilateral trade imbalance. However, they may find many Japanese home owners and renters nodding in agreement should they discuss the general deficiency of Japanese housing in the context of the affluence of Japanese life.

Japanese Housing in International Perspective

Comparison of Japanese housing with that in other industrialized countries is hardly a straightforward exercise. The Japanese obviously use their houses differently. Those with only casual information about Japan have heard that Japanese sleep on the floor, take their shoes off when entering their house and walk on straw mats. Some of these habits are associated with differences in the housing itself. Many rooms, for example, can serve multiple purposes, meaning fewer are required. The use of materials is different, too. Wood plays a far more important aesthetic role in Japanese housing than in most American dwellings, and the generally used post-and-beam construction technique differs from the 2x4 method favored in the United States.

In recent years many Japanese homes have taken on Western trappings, such as beds and carpeting. Today's Japanese families -- like their American counterparts -- may fill their home with the latest products of Japan's famous electronics firms. However, these superficial similarities with the United States mask important physical differences in Japanese housing, not only compared to this country but to other industrialized countries (see Table 1).

Table 1: Housing Conditions in Japan and Other Countries

	Japan	United States	United Kingdom	France	West Germany
Dwellings per 1,000 people	323	413	399	451	447
Floor area per new dwelling unit (square feet)	909	1,451	n.a.	920	1,010
Floor area per capita (square feet)	298	600	n.a.	417	451
New dwelling units per 1,000 people	11.6	6.8	3.8	6.3	4.1
Percent of dwellings with flush toilets	65.8%	97.8%	97.3%	87.3%	97.1%
Percent of family members with own room	34.6%	69.7%	75.7%	68.8%	48.2%
Percent of households with second home	2.2%	16.6%	2.7%	9.0%	4.9%
Average new home price as multiple of average household income	5.6	3.0	4.0	n.a.	4.8

Notes: For first four rows: Japan's figures are for 1983, except floor space per dwelling, which is for 1984; other countries' figures are for 1984.

For fifth row: Japan, 1988; United States, 1980; United Kingdom, 1981; France, 1978; and West Germany, 1978. The U.K. figure is for Wales and England only.

For sixth and seventh rows: All countries, 1980.

For eighth row: Japan, 1987; United States, 1985; United Kingdom, 1986; and West Germany, 1984. Japanese figures refer to upscale apartments and developer-built homes in the Tokyo metropolitan area.

Sources: Ministry of Construction, Management and Coordination Agency, Organization for Economic Cooperation and Development and United Nations.

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The table shows that Japanese housing, although much of it relatively new, is generally much smaller and less likely to have characteristics that Americans take for granted. For example, even though the percentage of homes with flush toilets doubled from 31.4 percent in 1973 to 65.8 percent in 1988, the figure is still far lower than in other industrialized countries. In some primarily rural prefectures in Japan, it is still under 30 percent. Even 9.7 percent of the homes built in Japan between January 1986 and October 1988 do not have this feature.

Similarly, people in other industrial countries take central heating and either a bathtub or a shower for granted. A significant number of Japanese homes do without all three. In 1988 9 percent of Japanese dwellings had no bathtub, although this figure had improved from 26.7 percent in 1973. The alternative for many remains the public bath, or sento. While sento are slowly disappearing from the Japanese landscape, a walk of several blocks to take a bath remains a daily ritual for thousands, even in Tokyo. Similarly, 81.1 percent of Japanese households in 1987 had kerosene heaters. While similar products, often made in Japan, have found their way into many American homes in recent years as a supplemental source of heat, in Japanese homes they often are a principal -- or even the only -- way of keeping a dwelling warm.

Finally, as the last line of Table 1 shows, Japanese housing is very expensive relative to annual income. The figure refers to upscale apartments and developer-built houses in the metropolitan Tokyo area, while the figures for America and elsewhere are nationwide. As such, the Japanese figure probably is biased upward, even though it omits owner-built housing, the most expensive type of housing in Japan and elsewhere. In addition, low nominal interest rates and probable future income gains both make Japanese homes more affordable than the figure indicates. Despite all these qualifiers, considerable anecdotal evidence suggests that the figures reflect significant differences. More than one Japanese national posted to America has purchased a luxury home in an expensive American city, only to find he cannot afford to buy a decent home when he returns to Japan.

Of course, Americans have to be careful about interpreting these figures. Different relative prices between the two countries could lead homeowners and renters to make different trade-offs between space, newness, and proximity to work, among other factors. Despite reports of three-room apartments renting for over $6,000 a month in Tokyo (against about $1,700 in New York City), housing in Japan's largest city can be found at an affordable price. Some Tokyo apartment units in close-in areas and near public transportation, for example, rented in early 1989 for the equivalent of a few hundred dollars a month. In Washington, D.C. or New York City, apartments in equally safe and convenient neighborhoods would be far more expensive, both in dollars and relative to average monthly income.

Similarly, while Japanese houses may strike some Americans as primitive, the average house in Japan is newer. The median age for U.S. dwellings in 1985 was 23 years, with about a quarter of the units built before World War II and about 10 percent less than five years old. In Japan the median age in 1988 was about 15 years; only 7 percent of the units were built before World War II and 9 percent were less than two years old. As further evidence of relative affluence, 98.3 percent of Japanese households had a refrigerator in 1987 and about 60 percent had air conditioning of some kind, both figures that approximate U.S. levels.

In an important sense Japanese and U.S. patterns of housing broadly correspond to natural endowments. Japan is one of the most crowded countries on earth, with 4.4 times the population of California crammed into an area roughly equal in size. Land is naturally expensive, given the competing uses. This suggests that a family with an income of a given size freely may choose to live in a smaller home than it would if land were more plentiful, compensating for space with other kinds of expenditures, one of which might be to replace the existing house more frequently.

Home financing also plays dramatically different roles in the Japanese and the American economies. In Japan special tax treatment for mortgages traditionally has been rather modest. However, the government-run Housing Loan Corp. provides roughly a quarter of new housing loans on favorable terms. In the United States, by contrast, the government has bestowed significant tax advantages on home ownership as well as creating several special government-related financial institutions that generally reinforce the efforts of private-sector mortgage providers.

Partly for these reasons, mortgages make up a larger proportion of the loan portfolios of commercial banks in the United States than in Japan, as shown in Table 2. However, banks in this country have approximately the same share of the home mortgage market as their counterparts in Japan. This suggests that home mortgages are much more important assets of the financial system as a whole in the United States than they are in Japan. Conversely, savings are less important in financing homes here than in Japan.

Table 2: Role of Mortgages in American and Japanese Commercial Banks

	United States		Japan	
End of Year	Billions of Dollars	Percent of Loans Outstanding	Billions of Yen	Percent of Loans Outstanding
1980	$266.3	28.5%	Y12,130	9.0%
1981	286.8	29.2	13,083	8.8
1982	304.1	29.0	13,767	8.4
1983	336.2	29.5	14,057	7.8
1984	375.5	28.3	14,433	7.1
1985	423.8	28.9	15,277	6.9
1986	486.3	30.6	17,257	7.1
1987	582.3	34.2	21,228	7.9

Note: The yearend 1980 Japanese figure equaled $52.7 billion at 1980's closing exchange rate of Y203=$1.00, while the comparable 1987 figure equaled $171.9 billion at that year's ending exchange rate of Y123.5=$1.00.

Source: Bank of Japan

Recent Developments in Japanese Housing

Several factors in the 1980s have affected housing demand in Japan. As incomes have risen, households have desired better homes. In addition, relatively low housing starts in the early 1980s may have created a backlog of unmet housing needs that could not be postponed indefinitely. Lower interest rates, especially since 1987, have been another positive influence.

Surging land prices in 1987 and 1988 were a particularly dramatic factor. While the increase was most spectacular in the Tokyo area, it was a nationwide phenomenon. As Table 3 shows, land prices have risen consistently faster than overall consumer prices, with land prices in Tokyo and other large cities generally rising relative to those elsewhere. In recent years the rate of increase in residential land prices has accelerated while consumer prices have shown greater stability. Despite the run-up residential land prices have risen less than those for other kinds of economic activity. For example, commercial land prices in the largest cities more than doubled between March 1986 and September 1988, while residential land in the same cities was up 64 percent.

Table 3: Japanese Residential Land Prices

(1980=100)

	All Japan		Six Largest Cities		Consumer
March 31	Index	Change	Index	Change	Price Change*
1976	75.7	--	66.9	--	--
1977	78.7	4.0%	69.9	4.5%	--
1978	82.5	4.8	73.6	5.3	4.3%
1979	88.7	7.5	82.9	12.6	3.7
1980	100.0	12.7	100.0	20.6	7.8
1981	112.2	12.2	110.6	10.6	4.8
1982	122.4	9.1	117.9	6.6	2.8
1983	129.5	5.8	122.5	3.9	1.9
1984	134.1	3.6	126.8	3.5	2.3
1985	137.7	2.7	133.8	5.5	2.0
1986	140.7	2.2	146.7	9.6	0.6
1987	156.1	10.9	186.3	27.0	0.1
1988	159.3	2.0	229.4	23.1	0.7
Addendum:					
September 30, 1988	162.7	4.2	240.0	11.1	0.6

*1985 base year; year-to-year rates of change.

Sources: For land prices, Japan Real Estate Institute. For consumer prices, Management and Coordination Agency.

After languishing in the early 1980s housing starts revived in 1986 and took off in 1987 and 1988, with rental housing especially strong (see Table 4). Has the housing boom caused the run-up in land prices? The pattern of increases suggests this generally was not the case. Since residential land costs were up less than other land costs, the rise may have echoed those other increases. This argument also suggests that housing starts did not lead land prices up but rather increased despite the higher costs of land.

Table 4: Housing Starts in Japan

	Total Units (1,000)	Distribution			Average Floor Space (square feet)
		Owner-Occupied Units	Rental Units	Other*	
1960	424	55.0%	34.4%	10.6%	635.5
1965	843	44.7	43.7	11.5	633.3
1970	1485	41.5	41.5	17.0	732.3
1975	1,356	51.9	27.7	20.4	891.4
1980	1,269	47.4	25.1	27.3	1,009.7
1981	1,152	48.5	26.4	25.2	1,006.5
1982	1,146	51.0	27.5	21.5	1,009.7
1983	1,337	42.1	34.6	23.1	940.9
1984	1,187	39.6	39.1	21.3	907.5
1985	1,236	37.6	42.6	19.7	896.8
1986	1,365	34.9	47.3	17.7	874.2
1987	1,674	32.6	51.3	16.1	851.6
1988	1,685	30.2	51.0	18.8	859.1

*Developer-built and employer-supplied.

Source: Ministry of Construction

A run-up in land prices signals that new potential uses -- including higher-density housing or commercial use -- have developed. Certainly, given that Japan's land area cannot be increased appreciably, relatively low-density housing appears on the way to becoming less common. This, in turn, suggests narrower choices and possibly less satisfying housing for future home buyers unless new technology comes to the rescue by permitting higher buildings or alternative land-use patterns promote decentralized housing without additional cost or inconvenience.

On the basis of the data shown in Table 4, some experts have made much of the fact that the average new dwelling size has declined in recent years (the last column). The figures do not mean that Japanese dwellings are getting smaller on average. Newly constructed housing continues to average more space than the existing housing stock, with the consequence that broad measures of average dwelling size continue to rise (see Table 5). The reduction in the new housing figures can be accounted for largely by the increase in the proportion of rental housing. As in the United States, owner-occupied housing tends to be detached single-family homes, while rental units overwhelmingly consist of apartments.

Related to the surge in rental unit construction, home ownership dropped to 61.1 percent in 1988 from 62.4 percent in 1983, the date of the previous Housing Survey. Generational comparisons reveal a similar trend. Those who were younger than 34 in 1988 are less likely to own a home than their parents were at the same age. For example, among those who are now 50 to 54 years old, 27.9 percent owned their dwelling when they were between the ages of 25 and 29. But among those now aged 25-29, only 17.8 percent have acquired their own home. (In the United States the figure for people 25 to 29 years old was 36.2 percent in 1988.) But the reverse pattern applies to Japanese now aged 35-39: they are more likely to own their home than their parents were at the same age.

Table 5: Characteristics of Japan's Housing Stock

	Rooms per Dwelling	Square Feet per Dwelling
1963	3.52	634.1
1968	3.63	672.3
1973	4.05	754.6
1978	4.44	811.3
1983	4.68	877.0
1988	4.81	920.5

Note: Includes only structures used exclusively for housing.

Source: Management and Coordination Agency

In the face of these changes in housing size and ownership patterns, Ministry of Construction surveys from 1973 to the most recent in 1983 show a continuing and consistent decline in contentment levels among home owners and renters. The results reverse those of surveys taken in the late 1960s and early 1970s, which showed these groups generally becoming increasingly satisfied with their housing.

The data obviously present a confusing picture. Japanese housing starts have increased in the late 1980s, and Japanese housing by most, but not all, measures is getting better. But dissatisfaction over housing is rising. And younger Japanese are less likely to own a home than were their parents at a comparable age. One summary measure captures some of this complexity. Table 6 shows the housing stock adjusted for price changes as a fraction of real gross national product. Increases in this measure indicate that housing is improving faster than real income; decreases the reverse. The data reveal an unbroken pattern of decline that persisted even into the beginning of the housing boom in 1987. These figures suggest that the Japanese household's unhappiness with its residence should come as no surprise: Japanese dwellings look increasingly inadequate compared to the other goods and services available to Japanese households. Foreign observers have discovered the same discrepancy; as a result, Japan's housing situation has become a subject of international discussion in the second half of the 1980s.

Table 6: Housing Stock and Real GNP

(at 1980 prices)

End of Year	Real Housing Stock (billions of yen)	Rate of Change	Real Housing Stock/ Real GNP
1981	Y138,134.5	--	54.9%
1982	142,065.3	2.8%	54.7
1983	144,824.8	1.9	53.5
1984	147,023.4	1.5	51.7
1985	149,264.5	1.5	50.5
1986	152,318.2	2.0	50.0
1987	158,272.8	3.9	48.9

Source: Economic Planning Agency

Housing and International Economic Relations

Trade friction between the United States and Japan is nothing new, with Japan usually on the receiving end of the criticism. Washington's trade stance toward Tokyo has shifted back and forth during the past decade between macroeconomic and microeconomic approaches, depending partly on political fashion in the nation's capital. Remarkably, Japanese housing can be made to fit both.

The Macroeconomic Argument - The overall theme of this approach is that American policymakers would like the Japanese economy to serve as a locomotive of worldwide economic growth, which, in their view, would simultaneously help to alleviate trade imbalances. Specifically, top Washington officals sometimes have implied that Japanese households consume too little. They point to the high rates of personal savings in Japan, which, as a percentage of disposable income, run as much as four times higher than U.S. rates. As a consequence, according to this argument, Japanese aggregate demand is too low, resulting in low imports, especially compared to exports, which have grown rapidly in much of the postwar period.

To remedy this problem, Japanese housing would appear to be a good place to start the process of stimulating demand. Housing is already a large part of the economy. Even a modest push would have a big macroeconomic impact. In addition, as homes are built, consumer demand might be stimulated for furniture, home appliances and other products. If all these hoped-for events unfold, the household sector's surplus savings now available for financing both corporate plant and equipment spending and foreign investment would shrink, setting in motion a sequence of higher interest rates in Japan, a stronger yen and a smaller current account surplus.

The macroeconomic approach characterized U.S. efforts between 1985 and 1987 to encourage Japanese policymakers to stimulate the economy as part of a push to rectify international imbalances that also included a substantial appreciation of the yen. Following policy decisions in Tokyo in 1987 the government began to implement a series of measures to stimulate domestic demand.

The most important measures for housing were reductions in interest rates, accomplished by means of a relaxed monetary policy supplemented by drops in some key individually set mortgage rates. Commercial banks, for example, lowered their rate for 20-year, fixed-rate mortgages, which had stood at 7.68 percent at the beginning of 1987, to 6.66 percent by yearend. Since then the rate has changed only slightly, standing at 6.6 percent in mid-1989. The government-run Housing Loan Corp. also played a pivotal role, dropping its rates and increasing the volume of loans dramatically. HLC lowered its most widely quoted rate in March 1987 from 5.25 percent to 4.7 percent and again in June of that year to 4.2 percent. Even a subsequent adjustment to 4.5 percent in December 1987 left the mortgage rate a percentage point lower than the level that had prevailed without change from July 1979 to January 1986. At the same time, HLC -- which relies on governmental sources, especially the Trust Fund Bureau, for its funding -- rapidly increased its level of lending, hiking the value of new loans by 37.1 percent in 1987 and another 24.8 percent in 1988. (The number of loans increased by 16.4 percent and 6.4 percent, respectively.)

These policies unquestionably were a factor in the rapid growth in housing demand that occurred in 1987 and 1988. Data for fiscal year 1987, which ended March 31, 1988, reveal the outlines of the favorable scenario hoped for by Japan watchers in Washington. The household savings rate dropped from 16.3 percent to 15 percent of household disposable income as consumer spending rose. Even more significant, the amount of household savings dropped 4.6 percent even though household disposable income rose 3.2 percent. Moreover, savings within the household sector going for capital formation -- the overwhelming proportion of which is purchases of new housing -- soared 21 percent. As a result, the surplus savings available for financing capital formation elsewhere in the Japanese economy and abroad dropped 15.4 percent. Together with the growth of the Japanese economy, these factors caused excess household savings to drop from 9.6 percent to 7.7 percent of nominal GNP. Partly in consequence, the excess demand of the foreign sector dropped from 4.5 percent to 3.3 percent of GNP.

While comparable FY 1988 data are not available, data for calendar 1988 on financial flows, as opposed to the GNP data used above, suggest that the surplus in the household sector continued to shrink, although perhaps at a slower rate than in FY 1987 (see JEI Report No. 27B, July 14, 1989). What this means is that rising housing starts may be connected with the reduction in Japan's current account surplus.

Another way to make this argument is to look at the role of housing in the GNP statistics. As Table 7 shows, private residential investment, despite its relatively small size, in 1987 contributed almost 25 percent of the economy's overall growth. Its contribution in 1988, while smaller, was still substantial. Like the sectoral balance figures presented earlier, these numbers suggest that housing has played a major role in stimulating domestic demand and has helped to replace relatively sluggish export demand as an engine of Japanese economic growth.

Table 7: Housing's Contribution to Real GNP Growth

	Housing as Percent of Real GNP	Real GNP Growth Rate	Contribution of Housing (percentage points)
1981	6.0%	3.7%	-0.2
1982	5.8	3.1	-0.0
1983	5.3	3.2	-0.4
1984	4.9	5.1	-0.1
1985	4.8	4.9	0.1
1986	5.1	2.5	0.4
1987	5.9	4.5	1.1
1988	6.4	5.7	0.8

Note: Figures do not include public housing investment, which averages about 0.3 percent of real GNP and showed little growth in the years covered.

Source: Economic Planning Agency

In summary, at least in 1987 and 1988 Tokyo took macroeconomic actions broadly consistent with what Washington wanted. Of course, a full-fledged macroeconomic assault on the bilateral trade imbalances also would require corresponding actions by the U.S. government, of which a meaningful reduction in the federal budget deficit would be the most important.

The Microeconomic Approach - Obviously, the Japanese current account surplus and the U.S. current account deficit both remain large. At the moment Washington appears to have grown frustrated with the macroeconomic approach. The alternative, the microeconomic approach, focuses on chipping away at barriers facing individual goods and services. Although not often admitted by its practitioners, the objective is less to change the trade imbalance than to alter its structure since current account surpluses and deficits basically are determined by macroeconomic forces.

The microeconomic approach often has prevailed in recent years. The MOSS (market-oriented, sector-selective) talks that took place in 1985 and the 1988 Omnibus Trade and Competitiveness Act are evidence of the new thinking. Especially important in this regard is the trade act's Super 301 provision, which requires the administration to identify priority foreign barriers to U.S. exports and to negotiate the removal of these restraints.

In late May the White House announced the first list of Super 301 countries and products. Japan was one of three countries cited and was named for three products: supercomputers, satellites and wood products (see JEI Report No. 22B, June 9, 1989).

The selection of wood products -- which took some analysts by surprise because it has been a low-profile issue since the conclusion of the MOSS talks -- guarantees that Japanese housing will remain an important subject for American and Japanese trade experts. Three-quarters of all lumber in Japan is used in housing construction. Similarly, many new Japanese houses still are made of wood. While other materials have made inroads, 41.4 percent of all the units constructed in Japan in 1988 were wooden, although this figure was down from 69.8 percent in 1970.

The share of imported wood products in construction has fluctuated from year to year, with no clear trend. As a result of more housing starts, less wood used per unit and constant import shares, import volumes have remained nearly steady. In fact, Japan actually imported more cubic feet of wood products in 1973 than it did in 1987, even though 1987 purchases represented a seven-year high.

The United States is one of the leading suppliers of logs and lumber to Japan. In 1988 purchases from this country added up to about $2.5 billion out of total imports of $7.1 billion, according to Ministry of Finance figures. Considering that the 1988 bilateral deficit based on Japanese statistics was $47.6 billion, relatively small variations in wood imports from the United States can have a measurable effect on the structure of trade.

A major U.S. complaint is that Japan imports primarily logs rather than lumber and other value-added products like plywood. According to U.S. data summarized by the National Forest Products Association which put Japan-bound shipments in 1988 at $2.2 billion, only 59.5 percent or $1.3 billion consisted of logs. Another 25.6 percent was lumber, primarily rough cut, and 11.3 percent was wood chips. Only $23.6 million, or 1.1 percent, were panel products, including plywood. (The remaining 2.5 percent were miscellaneous products.) The United States argues that tariffs as high as 20 percent on lumber and other wood products and no duties on logs create high levels of effective protection for Japanese producers.*

In response to these complaints Tokyo points out that imports of logs and lumber were up in both 1987 and 1988. It also argues that the high tariffs on value-added products are directed toward Asian suppliers, especially Indonesia, which Japan believes is providing special export assistance to wood producers. In fact, Japanese wood product suppliers have asked the government to complain about Indonesian practices before the General Agreement on Tariffs and Trade, but Tokyo so far has not taken this step.

Beyond tariff contentions, Washington also argues that Japanese building codes and product standards make life difficult for U.S. suppliers. For example, building codes discourage the use of wood on Japanese home exteriors, with the result that, according to the U.S. government, wood use -- and U.S. imports -- are discouraged. However, Tokyo also has taken special measures recently to encourage the use of wood in Japanese homes. Other problems cited by Washington are that product standards emphasize appearance rather than structural performance or that required tests fail to adequately measure the proper characteristics.

Similar complaints, of course, have been made concerning other Japanese industries; the Super 301 procedure is seen widely as an effort to use wood products to establish a precedent in addition to further opening up a multibillion-dollar market. Earlier sectoral negotiations did result in increased access for American wood exporters. As part of the MOSS talks, Tokyo agreed to revise some building codes, develop product standards for certain products and reduce tariffs on a number of wood products by an average of 30 percent. Obviously, Washington now feels these measures did not go far enough.

In addition to the prospect of further talks on residential construction materials, housing figures in another recently announced series of trade discussions between Washington and Tokyo. Immediately prior to the Paris summit conference of the seven leading industrial democracies this summer, Prime Minister Sosuke Uno and President Bush announced a new series of talks aimed at identifying structural impediments to trade (see JEI Report No. 28B, July 21, 1989). The talks, set to begin in September, with an interim assessment due by next spring, are expected to take up land-use policies in Japan, among other topics.

These talks are expected to affect housing through its connection with land-use policy. One widely cited figure is that 7 percent of the land in Tokyo is used for farming. Of course, an additional 7 percent of Tokyo's land easily could be devoted to parks and other open space and still have those amenities at a lower level than in comparable American cities. But Washington is not asking for more parks. It seems to be thinking that if additional land were available for housing, there would be more houses -- and bigger ones, more like American ones -- creating a bigger demand for American products.

Land-use policies, which keep potential land for housing off the market, work mainly to keep the price of land high, not to raise the rate of increase.

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*For details, see U.S. Department of Commerce, The Japanese Solid Wood Products Market (Washington: 1989).

In other words, changes in land-use policies would at most create a temporary, one-shot drop in land prices and a similar increase in housing starts.

However questionable the arguments of its number-one trade partner, Tokyo has to listen. In July Nihon Keizai Shimbun, the Japanese economic daily, reported that Japan is considering removing the tax advantages that lead to continued farming in urban areas and taxing the land as if it were residential.

Conclusion

In addition to possibly exaggerating the effects of land-use policies, Washington may be underestimating the differences between the United States and Japan in the pattern of demand for housing space. Japanese households use their dwellings very differently than American ones, with consequences for how the home is likely to be built and furnished, how the rooms are used, soundproofing and many other characteristics. Since, fundamentally, Japanese homes are smaller than those in this country, these arguments suggest that the market for American-style home furnishings and building materials is likely to be limited. At the same time, Japanese households may have a hard time finding room for some bulky new products in which Japanese firms currently have the lead, such as high-definition television.

Furthermore, Japanese individuals, like Americans, may regard their home as one of the last bastions of tradition. They have paid extra money and endured discomfort in their homes for decades, perhaps in part so they may continue to enjoy the aesthetic qualities of Japanese houses. With greater affluence than ever, they may feel they can afford both comfort and a Japanese-style home. Indeed, some affluent young Japanese have used their new-found wealth to build large, traditional-style homes they could not have afforded a few years ago.

Nonetheless, although a home may be an individual's castle, and just as private, Japanese housing patterns have become the subject of intense international scutiny. While Japanese homes have been converging slowly in size and design to American ones, the process is far from complete. American trade negotiators seem to want the process to accelerate. While they may succeed to a modest degree, cultural and geographical differences are likely to keep Japanese housing highly distinctive by international standards.

For further information, contact Douglas Ostrom.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

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LDP Begins Selection Process For New Prime Minister

The ruling Liberal Democratic Party, anxious to stabilize the domestic political situation and restore the public's faith in its leadership capabilities, has set selection by secret ballot of its new president for an August 8 joint plenary session of its 403 Diet members. Toshio Komoto, the 78-year-old leader of one of the LDP's smaller factions, and Toshiki Kaifu, 58, a former education minister and Komoto lieutenant, appear to be the leading contenders to succeed Sosuke Uno as party leader and therefore prime minister. Mr. Uno, whose 52-day administration was crippled by the Recruit Co., Ltd. influence-peddling affair, opposition to the new consumption tax and allegations of his

Many market watchers question whether consumers will take to the new format, especially in light of initial price tags of $1,300 and up. Many also question the effectiveness of the antipiracy agreement, pointing out that it would permit endless production of perfect DAT tapes from CDs. Ironically, the Japanese recording industry has denounced the agreement precisely because of this inadequacy. The Japan Phonograph Record Association, the Japanese Society for Rights of Authors, Composers and Publishers and the Japan Council of Performers' Organizations said that the limitation of DAT tapes to first-generation copies was not an effective safeguard for the copyright holders. Observers around the globe predict that a levy on each DAT machine and blank tape eventually will be applied to compensate artists and music companies.

From another perspective, the success of DAT could pose problems for U.S. trade policy. Since no American manufacturer currently makes DAT equipment, all the machines must be imported. If they prove to be as popular as CDs and VCRs, DAT machines could add significantly to the U.S. import bill. Conversely, those seeking to revive the U.S. consumer electronics industry may seize on DAT to complement their plans to create a domestic high-definition television industry.

Jon Choy

Extension Of U.S. Steel Quotas Puts Japan's Mills In Bind

President Bush's July 25 decision to extend the quotas on imports of foreign steel for 30 months while trying to negotiate an end to subsidies and barriers that distort world trade in steel was hailed as a reasonable compromise by major American steel users but denounced as shortsighted by domestic steel producers and their allies on Capitol Hill. Japanese steel mills had little to say about the White House announcement, even though they had a lot riding on whether the administration opted to continue the restraint arrangements initiated by President Reagan in September 1984 or to allow the quotas to lapse at the end of the original five-year program. But the Japanese industry's reticence did not come as a complete surprise since the world's largest steel manufacturers and exporters had adopted a low profile during the increasingly heated domestic debate over the future direction of U.S. steel trade policy.

Cynics claimed that Japan's steel suppliers could afford to stay on the sidelines this time around since an influential coalition of 200-plus American steel customers led by Caterpillar Inc. was challenging the U.S. steel industry's assertion that it needed another five years of protection from foreign competition. Some American steel executives and trade analysts proposed a different rationale for Japan's seemingly disengaged position. Japanese mills, they charged, were dumping steel in the United States and therefore were afraid to lobby actively for unrestricted access to the American market. In reality, steelmakers in Japan were reluctant to enter the fray because they recognized they could benefit either from extended quotas or from a September 30 end to the restraint program.

On the one hand, an end to Washington's voluntary restraint agreement with Tokyo might enable Japanese exporters to ship more steel to this country. U.S. purchases of Japanese-made steel mill products dropped 35.3 percent between 1984 and last year (see Table). Most of this cutback can be traced directly to the restraint program, which covers almost all of Japan's U.S.-bound

Apparent U.S. Consumption of Steel Mill Products, 1984-88

(in thousands of tons)

	1984	1985	1986	1987	1988
Domestic Shipments	73,740	73,043	70,263	76,654	83,841
Total Imports	26,163	24,256	20,692	20,415	20,891
Total Exports	980	932	929	1,129	2,069
Apparent Consumption	98,922	96,367	90,026	95,940	102,662
Total Import Market Share	26.4%	25.2%	23.0%	21.3%	20.3%
Market Share for VRA Countries	21.9	20.5	17.4	14.7	14.5
Total Imports from Japan	6,630	5,990	4,422	4,321	4,290
Japan's Market Share	6.7%	6.2%	4.9%	4.5%	4.2%

carbon steel exports. In 1988, however, Japanese exporters were able to fill only 72.1 percent of their aggregate quota. This shortfall was partly a byproduct of record steel demand at home and continued industry downsizing, but it also reflected the fact that Japanese steelmakers were the high-cost competitors in the American market last year.

According to estimates prepared in late 1988 by PaineWebber Inc. steel analyst Peter F. Marcus, at an exchange rate of Y125=$1.00 (which was slightly higher than the average for the year), the landed U.S. cost of Japanese-made cold-rolled sheet was $632 per metric ton -- $148 more than the comparable American product and $87 above sheet supplied by West German mills, which had the second-highest landed cost. Japanese exporters were at a similar disadvantage across-the-board but especially in commodity products.

While the steep run-up in the yen's value since 1985 has forced Japanese producers to shift output increasingly to high value-added steel like coated sheet and stronger but lighter products, the way the U.S. quota is structured restricts the ability of Japan's industry to alter the mix of export products to minimize its cost handicap in the American market. Not only are overall imports from Japan capped but there also are limits on all major product categories -- sheet and strip, plate, structurals, bars, pipe and tubing, wire rod and wire products, finished structurals and semifinished products -- and on key product groups within each category. Exporters have some freedom to change the mix of categories subject to quota and to switch shipments of products within a category, but the flexibility built into the present VRA does not fully reflect the international cost position of Japan's steel industry.

Although they might be able to sell more steel here if the market were wide open, steelmakers in Japan see some pluses in the continuation of the U.S. steel restraint program. For one thing, the quota arrangement has eliminated a major source of friction in the bilateral relationship. Japanese producers understandably do not want a replay of the disruptive trade battles of the 1970s and early 1980s. The VRA also provides Japan's industry as well as other participants in the restraint program immunity from dumping and other trade complaints. One of the primary lobbying tactics used by U.S. steel manufacturers over the last year or so was to threaten to flood the government with unfair trade practices cases if the quota plan expired. Moreover, even though Japanese mills could not fill their quota last year and probably will come in below target in 1989, extension of the ceiling plays a defensive role for Japan's industry: it limits the U.S. market inroads of other offshore suppliers while keeping the door open for Japanese exporters should market conditions change at home or demand in third countries weaken.

President Bush and his senior economic advisers had to juggle a longer list of pros and cons in deciding the fate of the expiring steel restraint program, including the increased competitiveness of the U.S. industry and its improved financial health and the possibility that domestic producers might be sent reeling again when the next cyclical downturn in demand hits. In the end the cabinet compromised. It extended the quotas that currently limit imports of finished carbon steel products from Japan, the 12-member European Community and 17 other VRA countries to 18.4 percent of apparent U.S. consumption for 30 months. That transitional period will be used to forge an international consensus on a long-term solution to government intervention in the steel sector, which the White House fingered as the primary cause of worldwide overcapacity in steel and, by extension, the painful adjustments U.S. steel manufacturers must make in periods of soft global demand. But even if a consensus is not reached by March 31, 1992, Mr. Bush said, the quotas still will end.

To facilitate the return to an open American steel market, Washington will add several new twists to the current restraint arrangements. Most notably, the overall ceiling on finished products imported from VRA countries will be raised by 1 percentage point a year or to 20.9 percent of apparent consumption by the time the cap is lifted. In addition, the restraint level on semifinished steel, now a fixed quantity, will change automatically in response to domestic demand -- a wrinkle designed to alleviate the repeated problems nonintegrated mills have experienced in getting an adequate supply of slab. At the same time, the existing mechanism for obtaining short supply relief will be expedited and streamlined.

The increases in the import ceiling under the new restraint program will be allocated on a first-come, first-serve basis to VRA countries willing to end trade-distorting steel subsidies and to remove tariff and nontariff barriers to steel imports. Given these criteria, Japanese producers, which now have the largest quota allocation -- 5.8 percent of American demand, should be in line for a bigger allotment. Although there has been talk in U.S. steel industry circles about Japanese dumping, no one in recent years has accused Tokyo of subsidizing domestic steelmakers or providing other financial support to them. Moreover, Japan's steel imports are soaring at the same time that its exports are dropping. Purchases of foreign steel jumped 38.6 percent last year on top of a 1987 gain of 50 percent-plus, which boosted the import share of apparent consumption to 8.4 percent. Most of these inroads have been made by South Korea, Taiwan and Brazil in the commodity end of the market.

Despite this favorable outlook, Japanese steel exporters are running scared. They are afraid that Washington will try to cut their quota since shipments came in so low last year. In talks with their American counterparts expected to begin shortly, Japanese trade negotiators no doubt will pull out all the stops to get the best deal possible. In addition to emphasizing the country's clean record on subsidies and import barriers, the Japanese team also can be expected to highlight the technological and financial contributions mills in Japan have made to U.S. steelmakers in recent years. These include two production tie-ups in this country between Nippon Steel Corp. and Inland Steel Industries Inc., similar arrangements between Sumitomo Metal Industries, Ltd. and LTV Corp., the Kobe Steel, Ltd.-USX Corp. venture recently formed to operate the top American steel company's bar facility, NKK Corp.'s 50 percent interest in National Steel Corp. and Kawasaki Steel Corp.'s recent $350 million investment in Armco Inc. Japanese government officials and industry executives are banking on relationships such as these to protect their current access to the U.S. market.

Susan MacKnight

Notes

Mexican Debt Plan - Mexico reached agreement July 23 with its bank creditors on a debt restructuring format that has become the first concrete result of the Brady Plan announced in March by Treasury Secretary Nicholas Brady. As widely expected the banks are given three rather unpleasant choices: they may opt for a 35 percent reduction in the outstanding principal of their loans to Mexico, accept a reduction in the interest charged to 6.25 percent from floating rates currently higher than 10 percent or extend additional loans.

Officially, Tokyo was enthusiastic. Finance Minister Tatsuo Murayama told a press conference, "It's a good development." The Brady Plan borrows some elements of a 1988 proposal floated by Japan that became known as the Miyazawa Plan after former Finance Minister Kiichi Miyazawa. In contrast, Japanese banks, which collectively rank second behind U.S. banks as top lenders to Mexico, were said to be critical. The banks hold $9 billion of the $54 billion total in bank loans outstanding to Mexico. They were reported to be feeling that an across-the-board 35 percent reduction in principal was unacceptable. Partly for this reason, Japanese banks responsible for most of the lending were said to be leaning toward accepting the lower interest rate option.

FSX - As generally expected, President Bush vetoed legislation July 31 that would have imposed additional conditions on U.S. participation in the joint development and production of Japan's next-generation fighter support aircraft, FSX. The White House in early June gave General Dynamics Corp., the main U.S. subcontractor, the green light to begin the development phase of this project with Mitsubishi Heavy Industries, Ltd., the prime Japanese contractor, since both houses of Congress had not passed a resolution of disapproval by May 31 to block the deal (see JEI Report No. 23B, June 16, 1989). However, the president's most recent action apparently lays to rest any concerns that there might be changes in the conditions agreed on by the two governments in the November 1988 memorandum of understanding and the April 1989 side letters governing the FSX project.

The legislation, which passed the Senate and House on May 16 and June 7, respectively, would have required that "no less than 40 percent" of both the development and the production work go to U.S. companies as well as at least 40 percent of the spare parts work. It also would have prohibited the transfer to

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REPORT

A Two-Part Report: A and B

NO. 31A August 11, 1989

JAPAN'S FOREIGN DIRECT INVESTMENT IN DEVELOPING COUNTRIES

Summary

Propelled by the strength of the yen and the magnetism of cheap labor, Japanese companies have increased their production facilities in developing countries, primarily in Asia and, to a lesser extent, Latin America, with little interest paid to the Middle East or Africa. Within Asia two trends seem to be emerging. First, the successful development efforts of the newly industrialized economies are leading Japanese companies to shift their labor-intensive assembly ventures away from the NIEs to Southeast Asia. Second, Japanese firms are relying on their overseas facilities to produce parts as well as assemble final products, thereby diversifying the range of Third World investments.

Introduction

The appreciation of the yen since 1985 has focused international attention on the efforts of Japanese exporters to remain competitive in the face of inhospitable exchange rates. Producers have used a number of strategies to survive the new climate. These include decisions to absorb some of the higher costs -- that is, consciously forgo some profits -- in a long-run strategy to retain international market share. (The fact that oil prices dropped when the yen began appreciating against the dollar somewhat mitigated the situation; Japanese firms were able to purchase energy supplies more cheaply.) Firms also have concentrated on honing research and development efforts in the hopes of discovering cost-cutting technologies or new, market-creating products.

Another essential strategy has been foreign direct investment. In the face of a near 100 percent increase in the yen's value against the dollar in just four years, Japanese firms have found it competitively necessary to shift more production overseas -- either for local consumption or export to third markets. This is hardly a new activity for Japanese companies. But where overseas production once was limited to large firms, the yen's surge now has convinced many of Japan's small and medium-sized businesses that foreign direct investment can help them cope with their international cost handicap.

Japanese investment activities have increased in both the developed and the developing world. However, currency considerations are merely one of a substantial list of reasons Japanese firms consider investing in Third World countries. Other reasons include:

- Shortages of labor in Japan, including a dearth of people willing to work at monotonous factory jobs in contrast to the low cost of labor in developing countries;
- The shortage and resulting high cost of industrial sites in Japan;
- The increasing number of environmental laws and other regulations in Japan that affect industrial activities;
- Local content laws in Third World countries and third-country restrictions on the volume of made-in-Japan exports; and
- Easier access to industrial inputs and lower electricity costs for energy-intensive products.

Regional Distribution of Japanese Investment

Given these compelling reasons for Japanese manufacturers to invest offshore, it is tempting to assume that foreign production has increased across-the-board since the 1985 Plaza Accord. Regarding industrialized countries, this is true. The value of Japanese investment in American assembly or manufacturing facilities quadrupled between FY 1986 and FY 1988 (see Table 1), largely because the yen's appreciation made local production cost-effective for firms selling in the United States. Similarly, assembly and manufacturing activities in Europe have increased significantly. Japanese investors have an added reason to set up production facilities in European countries; the possibility of expanded local content regulations after the European Community unification in 1992 is spurring Japanese firms to establish a presence there in order to be counted as a local producer (see JEI Report No. 28B, July 21, 1989).

Investment activities in the Third World have been uneven. Among the developing regions Asia has been the overwhelming beneficiary of Japanese firms' decisions to establish manufacturing facilities overseas -- second internationally only to North America (see Table 2). The value of Japanese investment in Latin America also has skyrocketed, more than doubling between FY 1985 and FY 1988. Although total direct investment in Latin America actually exceeds the amount sent to Asia, the figures are somewhat misleading. Only 17 percent of Japanese investment in the region has gone into the manufacturing sector. Much of the remainder is "paper investment," including, for example,

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Table 1: Japan's Foreign Direct Investment by Country, FY 1984-FY 1988

(in millions of dollars)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	Cumulative March 31, 1989
United States	$3,360	$5,395	$10,165	$14,704	$21,701	$71,860
Canada	184	100	276	653	626	3,231
North America	3,544	5,495	10,441	15,357	22,328	75,091
Indonesia	374	408	250	545	586	9,804
Hong Kong	412	131	502	1,072	1,662	6,167
Singapore	225	339	302	494	747	3,812
Korea	107	134	436	647	483	3,248
China	114	100	226	1,226	296	2,036
Thailand	119	48	124	250	359	1,992
Malaysia	142	79	158	163	387	1,834
Taiwan	65	114	291	367	372	1,791
Philippines	46	61	21	72	134	1,120
Asia	1,628	1,435	2,327	4,868	5,569	32,227
Panama	1,671	1,533	2,401	2,305	1,712	12,858
Brazil	318	314	270	229	510	5,596
Caymans	1	132	930	1,197	2,609	5,085
Bahama	97	298	792	734	737	2,718
Mexico	56	101	226	28	87	1,671
Bermuda	29	148	16	36	337	991
Netherlands Antilles	66	62	66	199	172	747
Peru	6	10	---	1	---	696
Latin America	2,290	2,616	4,737	4,816	6,428	31,617
United Kingdom	318	375	984	2,473	3,956	10,554
Netherlands	452	613	651	829	2,359	5,525
Luxembourg	315	300	1,092	1,764	657	4,729
West Germany	245	172	210	403	409	2,364
France	117	67	152	330	463	1,764
Switzerland	229	60	91	224	454	1,432
Spain	140	91	86	283	161	1,045
Belgium	71	84	50	70	164	1,027
Europe	1,937	1,930	3,469	6,576	9,116	30,164
Australia	105	468	881	1,222	2,413	8,137
Oceania	157	525	992	1,413	2,669	9,315
Liberia	281	159	289	267	[illegible]	3,658
Africa	326	172	309	272	[illegible]	4,604
Kuwait	55	34	41	54	20	1,383
Iran	0	0	---	---	1	1,005
Middle East	273	45	44	62	259	3,338
Total	10,155	12,217	22,320	33,364	47,022	186,356

Source: Ministry of Finance

Table 2: Japan's Foreign Direct Investment by Industry and Region, March 31, 1989

(in millions of dollars)

	North America	Latin America	Asia	Middle East	Europe	Africa	Oceania	Total
Manufacturing Sector	$23,944	$5,437	$12,371	$1,273	$4,857	$226	$1,735	$49,843
Food Products	934	223	516	0	171	8	112	1,965
Textiles	493	439	1,380	4	303	39	11	2,669
Wood and Paper Products	1,377	200	389	-	5	0	128	2,099
Chemicals	2,311	590	1,785	1,128	594	20	113	6,540
Metals	2,553	1,933	2,268	66	328	127	395	7,671
Nonelectric Machinery	2,610	378	1,037	11	626	1	54	4,716
Electric Machinery	5,952	491	2,414	14	1,261	7	56	10,196
Transport Equipment	3,030	1,050	1,183	4	913	17	759	6,956
Other	4,684	132	1,399	46	656	7	106	7,031
Nonmanufacturing Sector	49,949	26,111	19,269	673	24,098	4,374	7,526	131,999
Agriculture and Forestry	354	190	277	2	7	7	218	1,054
Fisheries	156	146	154	1	7	94	72	632
Mining	1,647	1,557	6,912	393	1,103	579	1,758	13,949
Construction	697	208	355	40	59	22	62	1,443
Trade and Sales	11,693	1,508	1,913	20	3,955	8	914	20,011
Banking, Finance and Insurance	12,370	10,990	2,509	123	14,853	22	1,009	41,876
Services	4,859	931	3,711	5	1,570	697	986	12,759
Transportation	239	9,236	584	2	101	2,079	102	12,342
Real Estate	15,782	142	1,230	-	1,386	69	1,988	20,599
Other	2,152	1,203	1,623	87	1,056	798	415	7,334
Branch Offices	714	45	551	1,389	1,171	1	48	3,919
Other Transactions*	485	23	37	2	38	2	7	595
Total	75,091	31,617	32,227	3,338	30,164	4,604	9,315	186,356

*Certain overseas real estate transactions have been excluded from Japan's foreign direct investment data since December 1, 1980.

Source: Ministry of Finance

ship registrations in Panama and various financial activities in tax havens such as the Cayman Islands.

Asia and Latin America are essentially the only developing regions that have been hosts to increased Japanese investment in recent years, however. Investors have shied away from Africa -- apart from registering ships in Liberia and engaging in a handful of resource-extraction operations. On the whole, the continent is considered both too geographically distant (from Japan or third-country markets) and culturally diverse to interest investors. Moreover, the obstacles posed by poor infrastructure, lack of trained personnel, markets limited by the dire poverty of the region and political instability are enough to persuade Japanese firms to look elsewhere.

Japan's overwhelming dependence on external oil supplies has prompted some firms to invest in petroleum-related ventures in the Middle East. However, Mitsui & Co., Ltd.'s experience in Iran stands as a cautionary light for corporate planners.

After the second oil shock in 1979, Mitsui announced plans to launch a multibillion-dollar petrochemical joint venture in Bandar Khomeini, Iran. Almost immediately thereafter, the Iranian revolution shifted the tenor of the political climate, which suffered further destabilization a year later with the outbreak of the Iran-Iraq war. Unable to secure Tehran's agreement to dissolve the project, Mitsui continued to sink money into the plant, even after Iraqi forces in 1984 bombed what already had been built.

The deathwatch for the embarrassing fiasco finally began in March 1989, when Iran and Japan agreed to begin talks to liquidate the Iran-Japan Petrochemical Co. Mitsui is expecting Tehran to make postwar reconstruction assistance a prerequisite for any separation agreement. And although Mitsui is eligible to collect investment insurance, the Ministry of International Trade and Industry has made clear its intention not to approve any claims for investments made after 1980. Current estimates put Mitsui's losses at roughly half the money it sunk into the project, a not insignificant amount. The costly implications of the IJPC failure have made Japanese companies extremely wary of investing substantial amounts in the region.

Risks of Investment

The risks associated with investing in a developing country are a constant concern to investors. Although the Bandar Khomeini experience is an extreme example, it nonetheless illustrates that investments in developing countries can turn sour very quickly. Even foreign investors in industrialized countries have cause for caution, as evidenced by many Americans' negative reaction to rising Japanese investment presence here -- despite the efforts of their state and local governments to attract foreign money. But risks generally are greater in developing countries. Japanese firms cite a number of obstacles to establishing facilities in the Third World:

- Political instability, like the Iranian example, possibly leading to physical damage to the facility or changes in the national attitudes toward investment (including nationalization of the foreign-owned company);

- Popular resentment of a significant Japanese industrial presence in the country, possibly culminating in events like the anti-Japanese riots in Bangkok and Jakarta in 1974;

- Stringent investment requirements, including laws governing export performance, local ownership ratios and local content;

- Shortages of trained host-country personnel for technical and managerial positions, either within the Japanese firm or for subcontract work;

- The tendency of non-Japanese workers to change jobs frequently;

- Difficulties in obtaining parts and other inputs from the developing host country; and

- Increasing international criticism (and possible reactions) regarding the effects of Japanese corporate practices on the global environment -- such as the degradation of rain forests in Indonesia and Brazil (see JEI Report No. 8B, February 24, 1989).

The levels of confidence that Japanese investors have in various countries is polled on a semiannual basis by the Japan Bond Research Institute, an affiliate of Nihon Keizai Shimbun Inc. Countries are rated on a scale of 2-10, with a score of 10 indicating no risk and a 2 indicating considerable risk. Selected results of the most recent survey were published by the Japan Economic Journal in March:

10.0: West Germany, Great Britain, Canada, France
9.9: United States, Singapore
9.6: Australia
9.4: Taiwan
8.4: South Korea, Thailand, Hong Kong
7.8: Kuwait
7.7: China, Saudi Arabia
7.4: Malaysia
6.0: Indonesia
5.9: India
4.3: Pakistan
3.9: Philippines
2.5: Iraq
2.3: Burma, Bangladesh
2.1: North Korea
2.0: Nicaragua, Afghanistan Peru, Sudan, Chad, Cuba

These ratings may give an indication of the general views of investors, but the fact that they already are a bit dated only underscores the risks in choosing offshore production sites. For example, the political violence that occurred in June in China has raised questions about the stability of that country as a host for investments -- as well as the implications for Hong Kong, which is scheduled to become part of China in 1997.

Shift From NIEs to Asean

As is evident from the rankings above, the newly industrialized economies -- Singapore, Hong Kong, South Korea and Taiwan -- inspire extremely high levels of confidence among Japanese investors, and until the mid-1980s they were the preferred sites for overseas production ventures. The "Four Tigers" had impressive drawing cards: low labor costs, relative political stability, geographic and cultural proximity to Japan and, for the most part, an eagerness to attract foreign investment. In fact, it is commonly argued that the economic success of these countries is due primarily to their ability to attract foreign investors and absorb the technologies they pass along. (For a more detailed discussion of Japan's technology transfers to developing countries, see JEI Report No. 22A, June 9, 1989.)

But as the NIEs approach industrialized-country status, their economic advantages have diminished. Most significantly, labor costs calculated in national currencies are rising rapidly. Exacerbating this trend is the strengthening of the Korean and Taiwanese currencies against the dollar. While the realignment has not been as substantial as the adjustment in the yen-dollar exchange rate, it has reduced the cost advantages of producing in these countries for shipment back to Japan or to the United States. In short, the NIEs are no longer low-cost hosts for the kinds of labor-intensive industries (for example, textiles) that Japanese firms traditionally have located there.

While political uncertainties probably have had less influence on Japanese investment decisions in the NIEs than elsewhere, neither Hong Kong nor South Korea is immune from consideration of this factor. As mentioned above, Hong Kong is concerned about changes Beijing may seek in its capitalist economic structure after 1997. And South Korea's political strife in the past few years has included labor unrest that has disquieted some Japanese investors. Nevertheless, the moves that Seoul has made toward democratization have been encouraging (see JEI Report No. 26A, July 7, 1989).

There is another, albeit still relatively minor, reason that Japanese investors may look outside the NIEs for offshore production opportunities. A significant proportion of Japanese products made in the NIEs traditionally has been shipped to third markets, especially the United States. But with the United States running trade deficits with all four of the NIEs ($9.9 billion with South Korea, $14.1 billion with Taiwan, $2.5 billion with Singapore and $5.1 billion with Hong Kong in 1988), additional restrictions on their U.S.-bound shipments are possible. That prospect gives Japanese investors an added incentive to use other countries as a base to supply the U.S. market.

Although production of labor-intensive goods may no longer be as profitable in the NIEs as it has been, other endeavors are becoming more cost-effective. For example, some Japanese firms now are considering the NIEs for higher-technology investments. Perhaps more important is a shift by Japanese investors to industries that tap into the spending power of the NIEs themselves. That is, rather than concentrating efforts on the manufacture or assembly of lower cost goods for export, Japanese firms now are branching into hotels, retail outlets and wholesale distribution, financial services and other industries that depend on the patronage of NIE nationals and tourists.

In the meantime, investors are turning toward some of the countries aligned in the Association of Southeast Asian Nations for supplies of labor-intensive products. Japanese investors are not choosing Asean countries simply for new investment activities; there have been some reports of Japanese firms pulling out of a NIE in order to increase their presence in Southeast Asia. Four of the six Asean members are drawing increased attention: Malaysia, Thailand, Indonesia and the Philippines. (Of the other two members, Singapore is considered a NIE, while Brunei has tied its economic success almost exclusively to its oil reserves.)

The Southeast Asian countries can offer significantly lower costs to Japanese investors, as well as very attractive exchange rates. For example, one Japanese corporate executive estimated that labor costs in Thailand are 50 percent lower than those in Taiwan, while materials costs are 30 percent less. The fact that these countries are anxious to earn foreign exchange, at least partly to repay their existing debts, increases their willingness to provide attractive incentives for foreign investors.

It is misleading, however, to speak of Malaysia, Thailand, Indonesia and the Philippines as a unit, or as interchangeable host countries, for Japanese investments. Each has its own benefits and disadvantages -- as well as its own structure of investment incentives and restrictions.

Malaysia - Called a "new NIE" more often than any other Asean country, Malaysia accrues both the prestige of being viewed as a developing country success story and the significant foreign investment associated with its fairly low labor costs. A Japanese businessman was quoted in 1988 as estimating that investors can employ 10 people in Malaysia for the same price as one worker in Japan. Low costs are enhanced by an attractive exchange rate, good infrastructure, relatively high levels of education, and an atmosphere of political stability -- although the marked cleavage between the Malay and Chinese ethnic groups raises questions about the country's future stability. Japanese businessmen also say that Malaysian workers have developed a reputation for consistently good work. As a consequence, Japanese investment has been growing steadily in the past few years, reaching $387 million in FY 1988. Malaysia is best known for hosting a large number of foreign-owned electronics facilities, especially plants doing assembly and testing of integrated circuits. This has made Malaysia the third-largest semiconductor producer in the world, according to the Malaysia-America Electronics Industry Association.

In fact, export-oriented foreign direct investment has been the driving force behind Malaysia's development thus far. Foreign investment made up some 75 percent of total investment in Malaysia in 1988 alone. Recognizing the importance of foreign involvement in the country's economy, Kuala Lumpur has eased its investment restrictions. For example, foreigners once were allowed to own no more than 30 percent of a given venture but now may wholly own a company as long as they meet one of two criteria: export at least 50 percent of the company's output or employ at least 350 Malaysian workers.

Not all Malaysians, however, are embracing what they see as an overreliance on foreign investment. These critics, often individual or corporate Malaysian investors, complain that the overly generous incentives given to foreign firms are squeezing out domestic investment activity. For the time being, however, these arguments are faint against the clout posed by prospective gains in employment, technology and foreign exchange from overseas manufacturing plants.

Some Malaysian officials also are worried about overconcentration in the electronics industry. The breadth of this concern remains unclear, but the automotive industry provides one example of how intent Kuala Lumpur is on expanding its export prowess into other areas. The Malaysian government is determined to make the Proton Saga -- in which the Mitsubishi Group owns a 30 percent stake -- an internationally distributed car. But because the financial incentives behind the drive do not appear great, many analysts have suggested that the Proton efforts are taking the form of a national symbol of Malaysia's determination to join the ranks of the industrialized world.

That such nationalism imposes costs on the foreign partner is clear. Another increasingly important consideration is that economic development is working to raise labor costs in the country. Each additional foreign venture experiences increasing difficulties in finding laborers, especially skilled workers. The Japan Economic Journal quoted one Japanese executive as saying that at the beginning of 1988 his firm received 800 applicants for 30 available positions; by the end of the year the response had dropped to 100 applicants, a trend that could portend problems for the future.

Thailand - The allure of Thailand lies in many of the same reasons that Malaysia provides an attractive investment environment. The government is politically stable (despite periodic shifts within the governing military elite), has a large and disciplined labor force and actively promotes foreign investment. Since Thailand's level of economic development lags slightly behind that of Malaysia, investors face more infrastructural problems. On the positive side, wages are lower in Thailand than Malaysia. Moreover, some analysts have suggested that because Thailand is overwhelmingly Buddhist, Japanese firms may feel more comfortable there than in other countries, such as predominantly Islamic Malaysia. The importance of cultural factors like religion in influencing investment decisions is impossible to measure, however, and therefore remains open to debate.

Thailand, like Malaysia, has gone out of its way to attract foreign investment by providing tax and other incentives. And, although the increasing Japanese presence does cause occasional resentful references to the World War II Greater East Asia Co-Prosperity Sphere, official attitudes toward Japanese investment are positive. One Thai politician summed up Bangkok's attitude toward Japanese investment activities: "It sure beats borrowing."

But Thailand is not without problems. The greatest obstacle to increased Japanese investment in the country is lack of physical space. Investment is centered overwhelmingly around Bangkok, which is fast becoming saturated. Factory and office space as well as residences are becoming more difficult, and more expensive, to obtain. As land prices rise around Bangkok so, too, does local resentment of Japanese activities.

Another hindrance is a shortage of skilled workers. The growing number of Japanese firms in the country has strained the supply of qualified engineers and managers. Companies have been known to lure skilled workers away from other plants with offers of huge salary increases. Domestic firms complain that they cannot match the larger salaries and can only watch the resulting internal "brain drain" as Thai engineers shift over to Japanese-affiliated companies. Nor are Japanese firms happy about the situation. The soaring pay scale for skilled employees is counteracting the benefits of low wages for factory workers and could negate such advantages altogether if the supply of Thai engineers does not expand. Another consequence of this shortage is that Japanese firms find it difficult to obtain high-quality parts from local producers; Thai suppliers respond that it is difficult to meet the standards imposed by Japanese firms when all their top employees are moving over to work in Japanese companies.

Indonesia - Although Jakarta's investment regulations have tended to be much more restrictive than those of Malaysia and Thailand, its political attitude more nationalistic and its overall post-Suharto stability more questionable, the cumulative dollar amount of Japanese investment in the country is roughly five times that in Malaysia, Thailand and the Philippines and even higher than in any of the NIEs. The reason is simple: Indonesia has oil and other natural resources Japan needs. Japanese companies have been willing to accept greater risks to secure supplies of industrial raw materials than to produce manufactured goods. But Indonesia's traditional limitations on investments also have led Japanese firms to concentrate their efforts on extractive industries.

Still, Indonesia does have large numbers of available workers -- a plus that is becoming increasingly rare in Malaysia and (to a lesser extent) in Thailand. And, although its level of economic development is lower than either of those countries', the infrastructure on the main island, Java, is relatively good. Perhaps more important are the indications that the Suharto regime is willing to increase its incentives for foreign investors. As Indonesia's oil revenues decline because of the fall in prices, the country is looking to increase its manufacturing prowess; foreign firms can help build a manufacturing export base. Moreover, as Indonesia privatizes its government-owned industries, it will need companies willing and financially able to take them over. Foreigners meet the latter criterion but still need to be convinced for the former.

In fact, Jakarta has been easing its investment restrictions. For example, the minimum investment for foreign firms has been reduced from $1 million to $250,000 -- although additional conditions are imposed on smaller investors to ensure that the venture will create either exports or jobs. Similarly, whereas foreign investors formerly were limited to a 49 percent stake in any given venture, they now can hold 55 percent of a firm if at least 20 percent of the company's shares is listed on the Jakarta Stock Exchange. Also, in the past few years the government has shortened considerably its list of sectors in which foreign investment is forbidden.

Against the backdrop of official attempts to attract manufacturing investment, Japanese interest for the short term appears to continue to be based primarily on Indonesia's oil and natural gas reserves, since the country remains Japan's geographically closest energy supplier and its major source outside of the Middle East. But the longer run potential of Indonesia remains enormous and, as will be discussed in the next section, Japanese investors are exploring the possibility of setting up some manufacturing facilities in Indonesia as part of an integrated Asean production scheme.

Philippines - Attracting the least amount of investor confidence among the Asean countries is the Philippines, which pulled in only $134 million of Japanese investment in FY 1988. As the Japan Bond Research Institute ratings indicate, Japanese firms find the low level of economic development and the constant political tremors a strong disincentive to locating their ventures in the Philippines. Reports of labor unrest in the past several years as well as the constant threat of terrorist strikes by rebel forces have only added to investors' concerns.

On the plus side, wages in the Philippines are extremely low compared with other Asian countries. Manila also has offered foreign investors such attractive inducements as four- to six-year corporate tax holidays. Moreover, to stimulate the spread of foreign operations throughout the Philippines, Manila is planning to build industrial centers and special zones aimed at attracting investors. The goal is to build up physical infrastructure to the point that foreign investors in various parts of the country will be able to operate as profitably as they now do in Manila.

Not all government policies aim at enticing investors, however. For example, a requirement that any venture have at least 60 percent local equity not only precludes a majority-owned Japanese facility but puts a heavy burden on Filipino investors to raise 60 percent of the funds needed to start up a venture. Nevertheless, one factor that is making the Philippines more attractive to Japanese investors involves the growing concerns regarding Hong Kong's political instability, Taiwan's (and, to a lesser extent, Malaysia's) increasing costs, and the physical "saturation" of Thailand. The Philippines is drawing manufacturers of labor-intensive products that otherwise might have gone elsewhere. As a result, increasing numbers of Japanese firms in the Philippines are manufacturing or assembling toys, textiles and apparel, and some consumer electronics items.

The Philippines also exemplifies an interesting development in the composition of foreign investment in Southeast Asia. No longer are Japan and the United States unquestionably the most important investors in the region. Firms from the newly industrialized economies are establishing greater numbers of overseas facilities in low-wage Southeast Asian countries, such as the Philippines and Indonesia. In fact, according to the Asian Wall Street Journal, Japan now ranks third among foreign investors in the Philippines -- after the United States and Taiwan.

Changing Composition of Investment in Asia

It is no surprise that Japanese firms tend to establish different types of manufacturing facilities in Southeast Asia today than they did 20 years ago. Indeed, Japanese investments have become more complex as companies have gained experience in operating offshore ventures. Initially Japanese firms located overseas to establish resource development centers and to take advantage of low labor costs to assemble products. Contemporary investors are more likely to manufacture products abroad as well as do assembly. Product lines, too, have changed. Although Japanese firms still find developing countries to be good places for traditional labor-intensive industries like textiles and apparel, they are seeing added benefits in establishing Asian subsidiaries that produce more sophisticated products -- such as consumer electronics and automotive components.

Asean-based facilities are winning more and more parts and materials work for a number of reasons. The ongoing strength of the yen makes procurement of large proportions of low-technology inputs from Japanese suppliers prohibitively expensive. Moreover, Asean countries have been able, for the most part, to improve the quality of the parts produced by local firms, whether these firms are locally owned or Japanese-affiliated. And, domestic content laws in many of the countries described above often make locally produced parts a requisite for foreign investors.

Consequently, corporate purchases of inputs made overseas have soared. Hitachi, Ltd., for example, estimated that its purchases of foreign-produced parts in FY 1988 would be 40 percent higher than the year before and that purchases of Asian-made foreign parts would increase by 50 percent. Even more pointedly, some Japanese firms have suggested to their domestic suppliers that it would be beneficial to locate plants overseas. The Japan Economic Journal reported that Nissan Motor Co., Ltd. hopes that between 50 and 100 of its roughly 300 suppliers in Japan will open subsidiaries elsewhere in Asia.

Asean countries themselves have encouraged the move toward establishing what has been called a "global buying network." In fact, some governments have even given preferential treatment to investors that want to produce parts rather than finished products. In Thailand, for example, parts manufacturers receive an exemption from some of the export requirements imposed on foreign manufacturers of finished products.

The buildup of components facilities in Southeast Asia has led to another phenomenon: a marked increase in intra-Asean trade. The horizontal trade links among Southeast Asian countries have strengthened. In fact, in its 1987 White Paper on International Trade and Investment, MITI noted a "growing tendency for Japanese industry, especially the electrical machinery industry, to view the Pacific Region as a single market from which to pursue a global corporate strategy."

The increased regional links are illustrated by MITI's latest Survey of Business Activities Overseas. According to the study, 54.7 percent of the total sales of Japanese production subsidiaries in Asia went to the local market in FY 1986, down from 66.9 percent in FY 1983. Roughly 15.8 percent was shipped to Japan (as opposed to 10.8 percent in FY 1983) and 29.5 percent was exported to third countries (up from 22.3 percent). Even more significantly, 12.8 percent of the total sales of Japanese subsidiaries in Asia involved exports to other Asian countries, an increase from 8.2 percent in FY 1983.

One example of the horizontal integration of Japanese subsidiaries in Southeast Asia is in the automotive industry. Mitsubishi Motors Corp. has proposed producing a regional car. The idea is to make the parts in various Asean countries for final assembly somewhere in Southeast Asia. According to MMC, the plan makes eminent sense based on simple cost calculations: if each Asean country produces a car in its entirety, that car would cost an estimated two to three times the price of a jointly manufactured vehicle.

Indonesia reportedly has expressed some concern about the idea on the grounds that it would gain less from the venture than the Asean countries charged with producing the car's higher value-added components. Still, the appeal of achieving greater economies of scale and tapping into a larger combined market is hard to ignore. Nissan reportedly also has embraced the idea of a regional automotive production network.

India: A Move Even Further South?

In contrast to its interest in Southeast Asia, Japan's investment in South Asia is still very small. But the prospects for ventures in the region, especially in India, are promising. Obvious benefits include India's extremely low wage structure as well as a relatively large number of skilled workers, especially scientists and engineers. But there is another appeal. Not only is there a growing domestic market in India, but the country provides an optimal export base for new markets, such as the Middle East, the Soviet Union and even Eastern Europe.

Some ventures are located there for unique reasons. For example, in 1979 Nitto Gelatin Co., Ltd. set up a venture to produce (among other things) ossein, a substance made from cattle bone collagen. The firm has said that because the cow is sacred in India, it was relatively easy to find people who collect cattle bones. Although this reason would not hold much appeal for other Japanese investors, the success of Nitto Gelatin might. Members of the Mitsubishi Group reportedly are considering locating in Kerala State, where Nitto Gelatin is located, to process partially finished toiletry products.

A more typical investment in India is in consumer electronics, especially the production of cathode-ray tubes for televisions. Mitsubishi Electric Corp., Hitachi and Toshiba Corp. all have established ventures to produce CRTs in India, primarily to service the fast-growing domestic market but also to tap into sales in Eastern Bloc nations. India has welcomed the investment as a way to acquire valuable technology -- not only for consumer items but also, perhaps, for more sophisticated electronics items (for example, computers).

Nevertheless, the appeal of India as a host for labor-intensive manufacturing is likely to be weak as long as there are alternatives in Southeast Asia. But if political instability in the Philippines or Indonesia grows -- or if Japanese firms wish to expand significantly the geographic scope of their markets -- South Asia will appear more inviting. Certainly in a longer-term perspective, as economic development proceeds in East and Southeast Asia, South Asia may well be the next-generation host for foreign investment in labor-intensive industries. As such, it could attract investors from Japan, the United States, NIEs and possibly even Southeast Asia.

Capitalist Investors in Socialist Nations: China

Whatever their ideological line on capitalism, a growing number of socialist countries are busy promoting foreign economic activity within their borders. The most obvious example of this is the People's Republic of China. The prospect of their neighbor's low wages and enormous market potential cannot help but pique the interest of Japanese investors, but they have proceeded warily. Complicating the difficulties of producing in a radically different economic and political environment is an extremely unwieldy Chinese bureaucratic structure.

The June 4 slaughter of Chinese demonstrators and the ensuing global reaction illustrate only too well the risks of investing in China. Although Japan came under international criticism for the speed with which businessmen returned to their existing operations in China (see JEI Report No. 25B, June 30, 1989), the political incident only reinforced doubts regarding China's viability as a stable investment climate for Japanese enterprises.

The political uproar also exacerbated already-held reservations stemming from a number of longtime thorns in the side of investors. Foremost among these are investment restrictions imposed by Beijing. Although a major incentive for locating in China is the opportunity to tap into the enormous domestic market, other forces compel investors to produce for export. Specifically, a firm that produces solely for local consumption will earn only local currency. Although it is possible to exchange renminbi at official exchange centers, those who do must pay huge premiums. Beijing has made some changes to mitigate the problem; for example, it allows investors to sell some goods in China for foreign currency. Still, investors must export a certain percentage of their output in order to obtain enough foreign exchange to continue to supply their plants with the parts and other supplies that they must obtain from abroad.

Another irritant is Beijing's retention of the right to examine foreign investment plans on a case-by-case basis. In doing so, the government often weighs the export potential of the venture. Based on past results, those investors aiming primarily at the domestic market expect to encounter more difficulties than those who wish to export.

Official incentives for investors have offset these obstacles somewhat. Foreign investors enjoy a two-year tax holiday, followed by a three- to six-year period of paying only 50 percent of their tax assessments. Beijing also has set up special zones in coastal areas, in which foreign investors enjoy favorable tax treatment. (Investors tend to be treated more favorably in the southern part of China, such as Guangdong Province; restrictions on foreign firms become tighter as they get closer to Beijing.) Japanese investors recently received even more favorable treatment in the form of an investment protection pact, which provides Japanese firms with the same status as Chinese firms. The effectiveness of this pact, which was signed in April by the two governments, remains open to question in the wake of the student massacre.

The current composition of Japanese activities in China reveals few surprises. The bulk of Japanese investment there consists of labor-intensive manufacturing or assembly and natural resource industries. One example is the Beijing-Matsushita Color CRT Co., a joint venture in which Matsushita Electric Industrial Co., Ltd. and Matsushita Electronics Corp. are equal partners with a group of Chinese corporations. The firm has been producing cathode-ray tubes for export to other Asian countries. Beijing stresses the venture's potential to develop China's ability to produce televisions and other consumer electronics items. The Matsushita Group liked the idea of having a low-cost overseas parts supplier. Again, however, the effect of the current political situation is bound to increase the costs -- at least in terms of uncertainty -- of relying on a China-based parts supplier.

It seems unlikely that Japanese businessmen would abandon China completely, despite the turmoil. The draw of the domestic market and of cheap labor remains great. However, the ultimate outcome will depend almost exclusively on Chinese policies. If political hard-liners gain the upper hand in Beijing, the result could be an isolationist or tight, centrally controlled policy that alienates foreign investors of all nationalities. But if economic reformers gain greater influence, they could well implement even more investment incentives in an attempt to persuade foreign firms to overlook the Tiananmen Square incident. These are longer-term considerations, however. For the time being, it seems reasonable to assume that Japanese and other foreign investment in China will be stagnant and that it will take some convincing on Beijing's part to persuade foreigners to commit significant additional resources to the country.

The Untapped Socialist Countries

Japanese firms have shown far greater reluctance to establish a presence in the other Asian socialist countries. The domestic obstacles regarding Vietnam -- serious political risks, inadequate infrastructure and poverty -- are not nearly as daunting as an international factor: the possibility of incurring

U.S. (or, to a lesser extent, Asean) wrath by establishing close ties with Vietnam. Indeed, Hanoi is doing everything possible to attract foreign capital, including allowing foreign investors 99 percent ownership in joint ventures (and full ownership in specific cases). Moreover, firms that establish ventures in areas that the government would like to promote are granted tax incentives. Among the favored candidates are export-oriented firms, ventures that employ a large number of Vietnamese workers and those that earn foreign exchange.

The incentives have attracted the interest of a number of foreign firms. The Wall Street Journal reports that Vietnam is now host to investment from Australia, Canada, India, Indonesia, South Korea, Thailand, Hong Kong and Singapore. Conspicuously absent from this list are the United States and Japan. America thus far has refused to consider normalizing relations with Vietnam, primarily because of its occupation of Cambodia and unresolved questions regarding Hanoi's knowledge of the whereabouts of American soldiers classified as missing in action from the Vietnam conflict. Although Japanese firms trade with Vietnam, none has moved to set up production facilities there. Until Japanese firms receive an indication that investing in Vietnam is unlikely to provoke American anger, they probably will continue to forgo the still-limited benefits of investing there in favor of preserving sound relations with Japan's major trading partner, the United States.

The case of Myanmar (formerly Burma) is slightly different. Japanese firms have not flocked to invest there, but neither have other foreign firms expressed great interest. Although the government has approved liberal foreign investment regulations, it did so only last December. Despite the less restrictive investment environment, some of the new regulations are vague -- an unsettling circumstance for prospective investors. So far Yangon's new regulations reportedly have attracted only one U.S. investor, which plans to process hardwood. There have been no indications of Japanese takers, but reports that Myanmar has substantial onshore oil deposits will ensure that Japanese firms continue to follow the situation closely.

The newness of the regulations might explain the lack of movement by Japanese companies, but continued political uncertainties about the country probably are a bigger factor. The government has attempted to ease foreign worries about the country's stability by promising to have open elections later this year and by reopening Myanmar universities. But observers have expressed doubts about the military government's stability and the likelihood that elections will indeed be held. An opposition party leader told the Asian Wall Street Journal that new investments could actually harm the prospects for elections since the increased economic activity could persuade the government that it can maintain the status quo indefinitely. Whether or not this scenario is accurate, it probably will not be put to the test. Prospective investors are more likely to wait for the promised elections before making any final decisions to increase their activities in the country. Political stability is simply too tenuous to do otherwise.

On a similar note, North Korea has attracted little in the way of Japanese investment, although bilateral trade has expanded slowly since the 1970s. Pyongyang has targeted Japan especially in its attempts to attract foreign investment -- for example, by specifically naming Japan in its 1984 joint venture law (see JEI Report No. 26A, July 7, 1989). But from the perspective of Japanese firms, there is little to gain in North Korea, except the opportunity for access to raw materials, and much to lose. Not only are the political risks and structural problems severe in North Korea, but establishing closer economic ties could jeopardize Japanese links with a much more important economic and political ally, South Korea.

In The United States' Back Yard . . .

In terms of total Japanese foreign direct investment, Latin America is the only developing region that rivals Asia. As mentioned above, however, the statistics are misleading: they incorporate a significant amount of nonmanufacturing "paper investment." A closer look reveals only two countries that have enjoyed an increase in Japanese manufacturing investment in recent years: Brazil and Mexico.

The dynamics of investing in Brazil tend to be quite different from those in Asian countries. For one, the country has embraced a development policy that relies heavily (although not exclusively) on import substitution. Partly as a result of this, Brazilian policymakers are quite ambivalent about foreign investment. Rather than embracing it as a way to acquire valuable technologies, they believe that foreign investors may dominate the domestic market in strategic industries and squeeze domestic firms out. Consequently, Brazil has placed significant restrictions on foreign investment in the "informatics" industry -- a vague term that can cover virtually any electronics-related product.

Moreover, restrictions on foreign investment are tight. Brasilia has enacted strict local content and local employee laws. The pressure on foreign firms to export is intense. Perhaps even more worrisome to prospective investors is the attitude of government officials, who sometimes do not hesitate to criticize the activities of multinational corporations. One Brazilian senator was quoted as saying that U.S. automotive companies should not insist on 100 percent U.S. ownership since, "in the future, they might be nationalized." Remarks such as this do not inspire confidence in the investment environment.

According to Leon Hollerman in his 1988 book, Japan's Economic Strategy in Brazil, 15 of Brazil's leading export firms are either wholly or largely Japanese-owned. They consist of four mining companies, two trading companies, two textile companies, and one each in iron ore pellets, aluminum, wood pulp, forestry, frozen products, pharmaceuticals and steel.

Japanese corporate interest in Mexico these days is directed overwhelmingly toward its proximity to the United States. In geographic terms the country is an ideal base from which to supply the United States. Also appealing are the low labor costs and Mexico's eligibility for the U.S. generalized system of preference eligibility (a benefit the NIEs lost at the end of 1988).

But Mexico has stiff laws governing local content, local employment and export requirements. These would be a significant deterrent were it not for the exceptions granted to "maquiladoras" -- assembly plants located just across the border from the United States. The maquiladora program is based on an agreement between the United States and Mexico; firms that assemble products in the region are exempt from Mexican investment restrictions and must pay U.S. duties only on the value added when the finished product is reexported to the United States. The agreement has benefited both sides. U.S. firms enjoy the extremely low labor costs associated with assembly work in a developing country while gaining the benefits of easy access to this country for inputs, maintenance, customer feedback and so forth. U.S. maquiladora employees also are able to conveniently live in the United States while working in Mexico. For its part, Mexico has seen its employment rate rise significantly. The northern border region now generates a disproportionate amount of Mexico's gross national product.

Although more than 90 percent of the maquiladoras are American-owned, the program has caught the attention of other countries. Japanese firms in particular see the opportunity of using the maquiladora program to remain cost-competitive in the U.S. market. These firms have all the same reasons as U.S. firms to locate in Mexico -- plus one other. The current uncertainties over the future regulation of foreign investment in the United States make the maquiladora program an even more attractive option.

Several Japanese firms already have located plants in the maquiladora region, including Matsushita Electric Industrial, Sanyo Electric Co., Ltd., Sony Corp. and TDK Corp. All these firms had production facilities in the United States before setting up their maquiladora plants; consequently, it is easy for them to access parts and other inputs from their U.S. subsidiaries. Although the number of Japanese firms in Mexico is not huge, there is every indication that it will continue to grow. A 1988 study by the U.S. International Trade Commission, for example, predicted that Japanese firms will invest up to $3 billion in Mexico between 1987 and 1990; much of this will be in the maquiladora region.

Despite the attractiveness of the program, the maquiladoras are not without problems. High employee turnover frustrates Japanese companies accustomed to operating under a lifetime (or at least long-term) employment system. A high absentee rate also poses problems; plant managers are reportedly happy when employee absences fall below 10 percent. Moreover, Japanese managers must deal with language barriers and cultural clashes. Techniques that work well in Southeast Asia -- such as quality control circles or company calisthenics -- may fail miserably in Mexico.

Another major worry is the as-yet muted reaction of the United States to a significant increase in the number of Japanese facilities operating near the U.S.-Mexican border. U.S. critics of the maquiladora program claim the Mexican plants create jobs for Mexicans that otherwise would go to U.S. workers. If the program also becomes viewed as a mechanism for Japanese products to slip into the United States, opposition is likely to grow. Similarly, if Mexican policymakers conclude that Japanese activities are jeopardizing the program, they could decide to impose restrictions on non-U.S. investors. Japanese investors are not likely to bypass the benefits of the maquiladora program, but they most certainly will proceed with one eye firmly fixed on Washington.

Conclusion

Japanese investors do not appear overly anxious to diversify their manufacturing investments in developing countries beyond Asia, except insofar as ventures in Latin America can tap into the U.S. market and investments in the Middle East can secure valuable oil supplies. Even a cursory look at investment figures shows that, despite the popular perception of Japanese businesses "buying up" the world, firms actually are proceeding cautiously in areas that are politically unstable or culturally different.

But Japanese investors are significantly expanding their activities in Southeast Asia -- looking for new locations as well as broadening the types of ventures. Perhaps more important in the longer run, investors are toying with the option of setting up regional production networks. Just how far such a policy will go toward promoting regional integration is still uncertain. Nonetheless, Asean countries are counting on foreign investment to lead to the same kind of economic development that moved Singapore, Taiwan, South Korea and Hong Kong into the ranks of newly industrialized economies.

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Kaifu Elected LDP President And New Prime Minister

Toshiki Kaifu, a former education minister, was elected president of the ruling Liberal Democratic Party August 8 and Japan's new prime minister two days later, events the LDP hopes will demonstrate to the electorate that a fresh breeze has blown through the ruling party. Although important changes occurred in election procedures and the candidate-selection process, there were indications nevertheless that the power of LDP factional politics still was quite potent in affecting the 58-year-old politician's rise to the top leadership slot. Time will tell whether these reforms were sufficient to restore the public's flagging faith in the ruling party and whether Mr. Kaifu can demonstrate more leadership acumen than his predecessor, Sosuke Uno, who resigned to take responsibility for the LDP's poor showing in the July 23 upper house election.

politician was widely regarded as the fresh new face that would lead the party out of its Recruit-related problems.

Japanese political insiders contend that despite Mr. Hashimoto's broad public appeal, he is not too popular with some of his colleagues, specifically Shin Kanemaru, Mr. Takeshita's 74-year-old mentor, who reportedly pulled the rug on the LDP secretary general. It appears that Mr. Kanemaru, who was considered a potential candidate until he withdrew from the race July 28, favored Mr. Kaifu over a Takeshita faction member, perhaps because the new prime minister represented the safest compromise between those in the party who felt that a new direction was needed and those who were reluctant to abandon the LDP's 34-year-long "elder statemen" leadership style.

As recently as August 2 Mr. Komoto also was considered a contender for the top post, only to be eased out by traditional LDP insider politics. According to the Japanese press, Mr. Abe told the former MITI minister that the younger LDP members were gaining the upper hand in advocating selection of a more youthful party president, implicitly urging him to drop out of the race. Although Mr. Komoto reportedly made no comment on Mr. Abe's suggestion, his subsequent withdrawal opened the door for his lieutenant. Given the importance placed on seniority in Japanese politics and culture, it would have been highly unusual and quite risky for Mr. Kaifu to run against his own boss. Thus, LDP "kingmakers," such as Messrs. Abe and Kanemaru, had to use their influence to clear the way for the younger generation -- even though this strategy may mean that they and their generation have forfeited a future shot at the topmost leadership.

Mr. Kaifu is the second leader chosen during the past three months to complete the term of former Prime Minister Takeshita. The term ends in October. Mr. Takeshita resigned April 25 to accept responsibility for declining public support of the ruling party and Japanese politics in general as a result of the Recruit affair. Former Foreign Minister Uno was elected June 1 to succeed Mr. Takeshita but after less than three months in office was forced to step down to accept responsibility for the LDP's unprecedented losses in the upper house election.

As mentioned, Mr. Kaifu is untested in high-level economic and foreign policymaking. He probably will have little time and opportunity in the next two-and-a-half months to spread his wings in these areas. Mr. Kaifu's priorities will be on the domestic scene, fighting opposition party efforts to repeal the unpopular 3 percent consumption tax and their call for a lower house election before yearend. In an August 7 campaign speech, Mr. Kaifu acknowledged that "the environment surrounding the LDP is now the hardest since its founding [in 1955]." The new prime minister said he favors a "critical review" of the consumption tax and the use of the monies for social welfare purposes.

Barbara Wanner

Japan's Current Account Surplus Shrinks

Lurking behind virtually every trade figure is a J-curve. That seems to be one lesson of Japan's most recent current account statistics, which show a 24.7 percent drop in the surplus in the April-June quarter compared to a year earlier (see Table 1). The J-curve refers to the fact that exports and imports

Table 1: Japan's Balance of Payments

(in millions of dollars)

	Trade Balance	Exports (f.o.b.)	Imports (f.o.b.)	Services (net)	Current Account Balance	Long-Term Capital (net)
1984	$44,257	$168,290	$124,033	$-7,747	$35,003	$-49,651
1985	55,986	174,015	118,029	-5,165	49,169	-64,542
1986	92,827	205,591	112,764	-4,932	85,845	-131,461
1987	96,386	224,605	128,219	-5,702	87,015	-136,532
1988	95,012	259,765	164,753	-11,263	79,631	-130,930
1987: I	23,373	50,515	27,142	-1,348	20,962	-32,209
II	25,038	55,823	30,785	-1,601	22,762	-44,365
III	23,585	56,600	33,015	-1,757	21,189	-22,023
IV	24,390	61,667	37,277	-996	22,102	-37,935
1988: I	21,021	59,345	38,324	-1,337	18,421	-15,142
II	22,448	63,559	41,111	-2,882	18,567	-36,556
III	23,765	65,989	42,224	-3,623	19,052	-42,214
IV	27,778	70,872	43,094	-3,421	23,591	-37,018
1989: I	21,311	66,945	45,634	-3,595	16,064	-5,612
II (p)	19,619	66,393	46,774	-5,010	13,987	-30,096

Table 2: Japan's Net Purchases of Foreign Securities

(in millions of dollars)

	Bonds			Stocks		
	Purchases	Sales	Net	Purchases	Sales	Net
1984	$56,348	$29,575	$26,773	$1,570	$1,519	$51
1985	291,338	237,859	53,479	5,484	4,489	995
1986	1,346,989	1,253,965	93,024	20,917	13,869	7,048
1987	1,273,829	1,200,944	72,885	70,936	54,062	16,874
1988	1,364,061	1,278,249	85,812	76,560	73,567	2,993
1987: I	377,850	354,648	23,202	13,925	9,386	4,539
II	341,880	316,585	25,295	15,277	9,797	5,480
III	325,517	308,421	17,096	21,882	18,370	3,512
IV	228,582	221,290	7,292	19,852	16,509	3,343
1988: I	332,047	318,877	13,170	18,901	19,467	-566
II	401,293	374,371	26,922	20,518	20,643	-125
III	333,473	307,635	25,838	25,166	23,425	1,741
IV	297,248	277,366	19,882	11,975	10,032	1,943
1989: I	341,774	327,771	14,003	17,724	17,828	-104
II (p)	487,087	461,996	25,091	21,228	15,120	6,108

Source for Tables 1-2: Bank of Japan

usually are measured by a flexible yardstick -- the dollar. If the dollar strengthens, the yardstick lengthens so that any given volume of trade is represented by fewer dollars. The gap between exports and imports may appear to shrink even if it has widened in volume terms. Just this happened in the first half of 1989 as the dollar appreciated against the yen. In fact, the dollar-denominated current account surplus in April-June dropped to its second-lowest level since July-September 1985.

The September 22, 1985 Plaza Accord has been credited with realigning world currencies, with the dollar losing as much as half its value against the yen. By late 1985 one immediate result of the dollar's drop was a larger dollar-denominated trade surplus in Japan. No problem, said the experts: the J-curve effect was creating some temporary messiness that well-functioning markets would soon straighten up. The shape of the "J" also suggested that, as exporters and importers completed their adjustments to different relative prices, the imbalance would eventually diminish, just as the parties to the Plaza Accord had hoped.

In mid-1987 a new act opened in the yen drama. Despite continuing dollar depreciation creating a whole new series of Js, the current account imbalance started to shrink. But almost as soon as that hoped-for turn of events seemed fully established, the pattern appeared to reverse: in 1988's fourth quarter the current account surplus increased over the comparable 1987 level. This time no J-curve came to the rescue, and policymakers in Tokyo and Washington started to wring their hands over this unexpected and unfortunate development.

But even as they spoke, the by-now familiar letter had crept back onto the stage. Beginning last winter, the costar of this drama -- the dollar -- began rising. With this unexpected twist in the plot, the J-curve took up an accustomed stance as the explanation: Japanese exports are now valued in more expensive dollars, and the yardstick has stretched to a length longer than a few months ago but shorter than three years ago. Like a character approaching the limelight slowly, this phenomenon was barely visible in the January-March 1989 statistics, when it was obscured by fluctuations in the data for other reasons.

But in the latest figures, the J-curve is back in the spotlight. As indicated in the customs-clearance trade statistics released earlier, export volumes actually grew faster than import volumes in the April-June quarter, yet the trade surplus declined (see JEI Report No. 29B, July 28, 1989), precisely the reverse of what happened in the months immediately following the Plaza Accord. With the addition of services -- where surging foreign travel widened an already large deficit -- the current account surplus showed a sharp decline. Deficits in other services were enough to offset positive net investment income, leaving the overall services imbalance closely reflecting the growth in foreign travel.

So far the experts have written at least two versions of the next act. A few expect the pesky J-curve to make an early exit, with the current account imbalance ending up larger for 1989 than it would have in the absence of the yen's appreciation. A majority, however, suggest that the J-curve will stick around long enough to shrink the current account balance for fiscal year 1989, which ends March 31; 1990, compared both to earlier FY 1989 estimates that had anticipated a relatively strong yen and to the actual result for FY 1988 (see following article).

If the current account is likely to show the J-curve effect for all of FY 1989, then the influence is even more likely for this calendar year. Simple arithmetic suggests that conclusion. The current account imbalances for the second half of 1989 would have to reach record high levels to offset the smaller surpluses in the first half of calendar 1989.

Some experts argue that what is going on backstage is more important, suggesting that capital flows actually determine exchange rates and through them external imbalances. If that is the case, the dollar may not have seen its high for 1989. As shown in Table 2, Japanese investors continued to have a healthy appetite for foreign bonds between April and June. Moreover, net investment in foreign stocks jumped to levels not seen since before Black Monday in October 1987. For Americans, who are on the receiving end of the lion's share of both kinds of investment, this amounted to a vote of confidence in the U.S. economy. For Japanese investors in the United States, the strengthening dollar has enabled a double reward. Not only do they benefit from higher interest rates here, but they have profited from having their dollar-denominated assets translate into a larger number of yen. Although a host of unscripted events could sway exchange rates, if past experience informs future actions, capital flows from Japan to the United States could be headed higher. This could create more dollar appreciation and -- one suspects -- still more J-curves, further reducing the Japanese surplus in 1989, although pushing it higher later.

But such a phenomenon would be the penultimate act at best. A broad consensus continues to insist that eventually the dollar will resume depreciating and bring with it -- after yet another J-curve reprise -- further sustained progress on reducing Japan's trade and current account surpluses. Careful observation of the acts performed to date suggest that the plot has been moving in that direction already, but with enough twists and turns to confuse even those paying the closest attention.

Douglas Ostrom

Forecasters Upbeat On Japanese Economy

How much longer can the good news last? That is the question both Japanese and American economists are asking about economic expansions in their respective countries, now two-and-a-half years old in Japan and even older in the United States. The U.S. hope is for a soft landing to avoid a recession; in Japan the expectation is that the aircraft will simply slow down a little. For example, in January Tokyo said it expected real economic growth to average 4 percent during fiscal 1989, which began April 1; that would be down slightly from the 5.1 percent rate registered in FY 1988 (see JEI Report No. 9A, March 3, 1989).

Now many experts believe the change in the velocity of the Japanese economy will be even more modest. Private forecasters, who last winter saw inflation-adjusted growth slowing to 4.2 percent on average in FY 1989, by this summer were predicting a 4.7 percent increase (see Table). Reflecting the depreciation of the yen throughout the first six months of 1989, the revised forecasts now count on the currency to be weaker for the whole fiscal year. Even so, the dollar-denominated current account surplus is expected to be smaller than previously thought, implying a larger drop from the $77.3 billion imbalance registered for FY 1988. Generally these revisions appear to reflect the short-run narrowing of the surplus that has resulted from the yen's depreciation earlier this year (see previous article). In some contrast, Mitsui Trust & Banking Co., Ltd. explained that larger-than-expected expenditures by Japanese tourists abroad also played a role in its downward revision of the expected FY 1989 current account surplus.

Recent Economic Forecasts for Fiscal 1989

	Real Gross National Product		Current Account Surplus*	
	Original	Revised	Original	Revised
Daiwa Bank, Ltd.	4.3%	5.1%	$76.7	n.a.
Daiwa Securities Research Institute	5.0	5.0	74.6	$66.9
Meiji Mutual Life Insurance Co.	4.2	4.8	76.5	72.3
Mitsubishi Research Institute	4.1	4.8	73.3	70.2
Okasan Economic Research Institute	4.5	4.8	76.1	73.4
Nikko Research Center	4.4	4.7	77.0	73.6
Mitsui Trust & Banking Co., Ltd.	3.9	4.5	75.4	74.0
Nippon Credit Bank, Ltd.	3.4	4.1	72.9	67.0
Average	4.2	4.7	75.3	71.1

*In billions of dollars.

While the outlook for all of FY 1989 is good and getting better, many experts believe that the Japanese economy flew through some turbulence during the fiscal year's first quarter. Some reports indicate that the April-June gross national product data to be released in September could show negative growth from the previous quarter, reflecting a slowdown in consumer spending in reaction to the consumption tax implemented April 1. Possibly foreshadowing such a development, average household consumer spending has fallen in the past two months from year-earlier levels. The decrease in real terms came to 0.8 percent in April and 2.9 percent in May; the latter figure was the largest year-to-year drop in more than four years. However, the Economic Planning Agency was quick to point out that the period from March to May showed a 1 percent increase over the year before. Furthermore, EPA believes that spending growth picked up in June.

Optimists can take heart from the seasonally adjusted, month-to-month pattern of output in manufacturing, which soared 5.4 percent in March prior to the new tax, dropped 3.8 percent in April, only to grow 0.5 percent in May and 1.5 percent in June, leaving it 7.3 percent ahead of June 1988.

In their latest estimates, private forecasters shrugged off not only the inconsistent and somewhat disturbing pattern of recent economic data but the possible negative impact of policy changes. For example, both the increase in the discount rate May 31 and the July 23 Diet election results were seen as having little impact. Higher interest rates normally could be expected to slow capital spending. And, prior to the election, some experts had predicted that a massive defeat for Japan's ruling party would cause cutbacks in plant and equipment spending plans. But even after the results proved to be worse for the Liberal Democratic Party than anticipated, Daiwa Bank, Ltd. incorporated healthier plant and equipment spending in its outlook for FY 1989 than it had previously. The upbeat projections by Daiwa and other forecasters seemed to reinforce the idea that Japanese economic growth was self-perpetuating and little affected by political factors or policy decisions.

Douglas Ostrom

Japan Maintains Cautious China Stance

While Beijing tries to convince the world that China has returned to normal after the violent June suppression of the prodemocracy student movement, Tokyo and Japanese businesses continue to move cautiously on bilateral political and economic relations. After stiffening its stance in coordination with leading Western industrial nations, Tokyo has urged Beijing to address squarely the simmering popular discontent and to "normalize" the domestic situation. Tokyo is concerned that instability in China will strain regional stability.

Just prior to the July 14 Paris summit meeting of the seven major industrialized nations, a Foreign Ministry spokesmen toughened Tokyo's two-track policy toward China. "On the one hand," he said, "we will keep expressing our regret and condemn China for the repression and brutal activities against students and citizens. At the same time, we should not lose sight of our long-term policy direction in which the modernization and open-door policy of China should be maintained." The statement was notable in contrast to Tokyo's earlier comments for its forthright naming of the Chinese government and for the use of stronger language, including "condemn" and "repression."

The Japanese government held to its careful approach at the Paris summit, agreeing with the six other participants that Beijing's actions must be condemned on humanitarian grounds. But it rejected any call for sanctions or other actions that would isolate China economically or politically. The summit's political declaration followed Tokyo's rationale, condemning the repression yet allowing each participant to impose appropriate measures independently. The communique concluded by echoing one of Tokyo's themes: "We look to the Chinese authorities to create conditions which will avoid their isolation and provide for a return to cooperation based upon the resumption of movement toward political and economic reform and openness."

Beijing's reaction to the declaration was harsher than expected. Tang Jiaxuan, the Chinese charge d'affaires at the Tokyo embassy, called the statement a "violent interference" in China's internal affairs. While vigorously defending his government's actions, Mr. Tang ignored Japanese representations that Tokyo had worked to restrain the summit statement as much as possible. Instead, he pressed Tokyo to resume open and cooperative economic and political relations since the situation in China had calmed down.

According to press reports, overt dissent has been quelled in Beijing with a few exceptions, such as reports of snipers operating against soldiers. With the return of at least surface calm, Japanese businesses rapidly reactivated their China offices, a move that elicited cries from Western observers that Japan was profiting from the absence of American and West European competitors. Of the 1,000 or so Japanese businessmen previously operating in China about half returned, primarily to settle accounts or fulfill existing contracts; government and private sources report that almost no new business was being arranged. Negative travel advisories from Tokyo have drastically cut the flow of Japanese tourists. Threats from a mysterious Chinese group to kill two Japanese a month if Japan did not stop its "economic invasion" of China has led to a second exodus of Japanese businessmen, who have moved their households out of China and are commuting between Tokyo and Beijing when necessary.

Despite its desperate bid to put the best face on recent events, Beijing has effectively admitted that the economic consequences of its political repression are significant. On August 1 the Chinese government implemented new foreign trade controls. To prevent price-gouging by foreign vendors and "internal trade wars," among domestic firms, only state-owned trade corporations will have permission to import products in great demand, such as fertilizers, grain, sugar, steel, pesticides, oil, timber, synthetic fibers and tobacco. Imports of 148 luxury items, including cars, motorcycles, home appliances and consumer electronics, will require a permit from the central government six months in advance. Imports and exports will be inspected to ensure their quality; some imports have been criticized as defective or second-hand while exports often have failed to meet buyers' expectations or international standards.

Japanese firms have reacted with nonchalance to the new restrictions, saying that exports to China were dropping sharply before the new rules came into effect and that they do not expect business to return to pre-June levels anytime soon. The specter that China will be unable to fulfill future financial obligations led the Japan Center for International Finance, a research organization backed by the Ministry of Finance and Japanese financial institutions, to downgrade China's credit rating from B to C on a scale of A to E.

The Foreign Ministry is worried that China will become uncooperative as a result of economic and political sanctions. At international talks on the Kampuchean situation at the end of July, for example, Beijing held out for a greater role for the Khmer Rouge, its ally, in any coalition government. Although a compromise eventually was reached, China underscored its ability to block or derail peace initiatives in Asia.

In sum, the Japanese have taken an overall wait-and-see attitude toward China. Tokyo expects Beijing to provide concrete evidence of its commitment to human rights and economic modernization. Businessmen are looking for much the same. Until China responds satisfactorily and international opinion shifts on the merits of the Beijing government, Japan will continue its cautious course.

Jon Choy

Senate Passes Burdensharing And FSX Measures

The Senate's frustration with Japan's defense policies found partial expression in the FY 1990-FY 1991 Defense Authorization Act, passed by the upper chamber August 2. Senate Armed Services Committee chairman Sam Nunn (D, Ga.) introduced a package of burdensharing amendments that are designed to increase pressure on members of the North Atlantic Treaty Organization, Japan and South Korea to augment their contributions to the costs of their own defense. The amendments were approved by voice vote.

Regarding Japan, the Senate noted that "extraordinary political, economic and social changes" in postwar Japan have rendered the country capable of contributing more to its own defense. It is acknowledged widely among legislators that security contributions can entail either economic assistance (especially aid to strategically important countries) or defense spending (see JEI Report No. 19A, May 13, 1988). Congress has tended to emphasize Japanese aid because of the political difficulties Tokyo has in expanding Japan's defense expenditures significantly beyond 1 percent of its gross national product.

The Tokyo-targeted amendment stresses that Japan's official development assistance and military expenditures, measured as a percentage of GNP, should equal those of NATO members by yearend 1992. Although Japan's absolute security spending is the third largest in the world, expenditures are quite small relative to its GNP. According to the August 1988 Report of the Defense Burdensharing Panel by the House Armed Services Committee, Japan is ahead only of Luxembourg in defense expenditures, when expenditures are measured as a percentage of GNP (see Table).

Security Expenditures by NATO Countries and Japan, 1986

(percent of gross national product)

Country	Defense Expenditures	Economic Assistance	Combined Expenditures
United States	6.7%	0.2%	6.9%
NATO Allies			
Belgium	3.0	0.5	3.4
Canada	2.2	0.5	2.6
Denmark	2.0	0.8	2.9
France	3.9	0.7	4.6
Germany	3.1	0.4	3.5
Greece	6.1	---	6.1
Italy	2.2	0.4	2.6
Luxembourg	0.9	---	0.9
Netherlands	3.0	1.0	4.0
Norway	3.1	1.1	4.3
Portugal	3.2	---	3.2
Spain	2.0	---	2.0
Turkey	4.8	---	4.8
United Kingdom	5.0	0.3	5.3
Non-U.S. NATO Weighted Average	3.3	0.5	3.7
Japan	1.0	0.3	1.3

Note: Defense expenditures for Spain and Japan use national rather than NATO definition.

Source: House Armed Services Committee, Report of the Defense Burdensharing Panel, August 1988.

Other provisions in the burdensharing package urge Japan to:

- Target foreign aid flows toward the Philippines and non-Asian countries that are strategically important, especially those in Latin America, the Caribbean and the Mediterranean;
- Disburse more aid in the form of untied grants;
- Hold consultations with security allies when selecting aid recipients;
- Take greater strides toward achieving Tokyo's pledge to acquire the capability to defend Japanese land, airspace and sea lanes to a distance of 1,000 nautical miles to the south and east; and
- Buy more off-the-shelf military equipment and weapons systems from the United States.

The burdensharing provisions also require the administration to negotiate with Japan to achieve Japanese security contributions equal to 100 percent of the direct costs of maintaining the U.S. forces that defend the country. (Tokyo currently provides 40 percent of the $6 billion costs of maintaining U.S. forces in Japan.) Another amendment in the package requires the White House to explore the possibility and the desirability of reducing U.S. military forces in South Korea. With regard to NATO, the Senate ordered a Defense Department study of the U.S.-allied forces ratio in Europe, followed by a recommendation as to whether the president should negotiate with NATO allies on increasing the number of their forces assigned to permanent duty in European nations.

A second Japan-related section in the bill illustrates that Congress still has reservations about the U.S. decision to participate in the joint development and production of Japan's next-generation fighter support aircraft, FSX (see JEI Report No. 21A, May 26, 1989). Sens. Robert Byrd (D, W.Va.) and John Danforth (R, Mo.) cosponsored a measure that would require the defense secretary to invite comments from the secretary of commerce on any proposals for arms cooperation agreements, such as the FSX deal. If Commerce finds that the proposal could adversely affect U.S. competitiveness, it could request an interagency review of the project; similarly, the president could block an arms cooperation agreement on the grounds that the threat to U.S. competitiveness is greater than the possible security benefits of cooperation.

The Senate's passage of the measure follows President Bush's decision to veto legislation that imposed additional conditions on U.S. participation in the FSX project and, more generally, future cooperative ventures (see JEI Report No. 30B, August 4, 1989). The vetoed legislation would have required that U.S. companies perform no less than 40 percent of the production work on the FSX and that no critical engine technology be transferred to Japan. The administration has argued that such requirements violate the constitutional separation of powers by allowing congressional intrusion into an area of executive negotiating authority.

Whether these measures will remain in a House-Senate conference report is not yet certain. But the Senate's message is clear: the United States is shouldering too big a defense burden without giving due consideration to the effect of massive defense expenditures on economic competitiveness. The general impression is that such single-minded attention to defense needs has resulted in unintentional U.S. underwriting of Japanese economic prowess.

Eileen M. Doherty

Interference Clouds HDTV Picture

After months of a steady drumbeat of public and private opinion favoring a concerted effort to develop a domestic version of next-generation television technology, dissonance is appearing. Even among those in favor of an American high-definition television industry, differences of opinion on the role of the government are creating new hurdles to developing a national strategy.

A Congressional Budget Office study, presented at an August 1 hearing before the Senate Governmental Affairs Committee, downplayed the potential impact of a domestic HDTV industry on related industries, such as semiconductors and computers. Even if the most optimistic growth estimates came true, the report argues, HDTV still would represent only about 10 percent of the global electronics industry -- too small a sum to make or break the U.S. industry's fortunes. Such a relatively minor market could not act as a "technology driver." Consumer acceptance of HDTV is at best uncertain, the CBO study estimates, noting that penetration is likely to be slow, as it was in the case of color television. In any case, the report submits that the majority of HDTV display equipment will be produced in the United States, whether by domestic or foreign companies, because of the components' size and fragility in shipping. For all these reasons, government financial support for HDTV development is unwarranted, CBO analysts conclude, recommending against granting special tax and antitrust waivers aimed solely at HDTV.

Concurring with the CBO report, the Electronics Industry Association suggested at the Governmental Affairs Committee hearing that the current debate on advanced television is focused too narrowly. While attacking those who forecast the imminent replacement of bulky cathode-ray tubes by flat-panel displays and pointing out important differences between computer workstations and home televisions, EIA argued that "the U.S. electronic industry prospers within a healthy economic environment that encourages investment in research and development and minimizes interference with free market transactions." Rather than picking specific technologies to promote, EIA said, Washington should: reduce the federal budget deficit; shift federal spending toward education, worker training, infrastructure and commercial science and technology; change tax laws to encourage investment; make the research and development tax credit permanent; and relax antitrust restrictions on joint production ventures. If Washington insists on doing something for HDTV, the group suggested that it should provide public funding for generic HDTV technologies, such as integrated circuits, large displays and manufacturing technology, and require that any publicly funded HDTV research be performed in the United States.

The response to the CBO report from other analysts and industry groups was far less favorable. Most criticized the report for being too narrow by considering HDTV as an isolated, separate market. As one example of a lucrative spin-off, a witness before the Senate committee pointed to the Federal Aviation Administration's contract for an advanced air traffic control system that includes up to 10,000 high-resolution monitors worth an estimated $1 billion. It also was pointed out that a Japanese firm is likely to receive the contract.

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JAPANESE POLITICS: A NEW ERA?

Summary

1989 may go down in history as a watershed in postwar Japanese politics: for the first time in its 34-year history the ruling Liberal Democratic Party lost its majority in the House of Councillors, while the Japan Socialist Party, the largest opposition group, realized unprecedented gains. Analysts have attributed the electoral results to widespread public disaffection with the ruling party's brand of "money politics" as exemplified by the Recruit Co., Ltd. influence-peddling episode as well as the LDP government's June 1988 decision to liberalize imports of beef and oranges and the April 1 implementation of a 3 percent consumption tax.

While the LDP is working to enact political reforms to restore the electorate's faith, the JSP is attempting to capitalize on the ruling party's blunders and is moderating some of its left-wing policy positions. How well each succeeds may determine whether the next election, that of the powerful lower house, will lead to a U.S.-style two-party system, a coalition government or resurging LDP fortunes.

In the meantime, Japanese politics will continue to be shaken up, providing bureaucrats with greater freedom to influence foreign and international economic policy initiatives. If implementing legislation is required, however, the current disarray among politicians may result in a harder-line Japanese position on external disputes.

Japanese Voters Rebuke Ruling Party

Japanese voters issued the ruling Liberal Democratic Party a sharp rebuke July 23 when they reduced the ruling party's 142-seat majority in the House of Councillors to a plurality of 109 seats in the 252-seat chamber. The electorate chose 46 Japan Socialist Party candidates versus only 36 LDP members to fill the 126 seats up for election, well below the 54 seats the ruling party needed to maintain its majority in this chamber. This boosted the JSP's previous roster of 43 to an unprecedented 72 upper house members. When the JSP total is combined with the other non-LDP parties, Japan's political opposition -- once described as a "permanent opposition" since it appeared unable or unwilling to break the LDP's grip on power -- holds a clear majority in the House of Councillors (see Chart 1). As will be discussed below, the ideological and leadership differences among the opposition parties may make it difficult for them to forge a united, effectual political force.

Chart 1: The House of Councillors

*Party Strengths in the Japanese Diet Upper House**

Political parties	Old strength	Seats not up for election	Seats up for election	Seats won	New strength
Liberal Democratic Party	142	73	69	36	109
Japan Socialist Party	43	21	22	46	72
Komeito	23	11	12	10	21
Japan Communist Party	17	9	8	5	14
Democratic Socialist Party	12	5	7	3	10
United Social Democratic Party	1	0	1	0	0
Rengo	1	1	0	11	12
Others	8	3	5	5	9
Independents	5	3	2	10	5
Total	**252**	**126**	**126**	**126**	**252**

*As of August 7, 1989. Some discrepancies between "seats won" and "new strength" are due to post-electoral realignments by Independents, primarily to the JSP and the DSP.

The JSP's surge does not mean the end of LDP preeminence in government. The ruling party still commands a significant majority in the lower house (see Chart 2), which is the lead policymaking chamber and elects the prime minister. However, a divided Diet could have important policy implications. Since the House of Councillors has the final say on legislation passed by the lower house, the opposition -- which in addition to the JSP, Komeito, the Democratic Socialist Party and the Japan Communist Party includes several single-issue parties -- has indicated it will try to use its numerical advantage in this chamber to hold up action on the budget or other critical legislation in an effort to win concessions from the LDP. (On spending bills this tactic works for only a month since, by law, lower house actions on government expenditures take effect in 30 days if the upper house has not acted.)

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Under certain circumstances, if the House of Councillors rejects a House of Representatives initiative outright, the lower house would have to garner a two-thirds majority to override the other chamber's veto, or 49 more votes than the LDP's current majority assures. In this situation, the ruling party would have to coopt support from some of the opposition parties, probably the DSP and Komeito, which are closer to the ruling party on many policy issues. This task certainly would be easier if, as some analysts speculate, the ruling party in the near future forms a coalition government including Democratic Socialist, Komeito or other non-LDP officials.

Chart 2: The House of Representatives

Party Strengths in the Diet Lower House

Political parties	**Present strength**
Liberal Democratic Party	293
Japan Socialist Party	83
Democratic Socialist Party	26
Komeito	54
Japan Communist Party	26
United Social Demcratic Party	4
Others	11
Vacant	15
Total	512

Source: *The Economist*, July 29, 1989

The fact that the LDP lost its upper house majority did not come as a complete surprise: as a prelude to its July 23 trouncing, the ruling party had suffered stinging defeats in a July 2 Tokyo municipal election and a June 25 upper house by-election in Niigata prefecture, heretofore a conservative stronghold (see JEI Report No. 26B, July 7, 1989). The LDP knew discontent was building at the grass roots. However, the severity of its losses left many in the ruling party dazed and prompted political commentators to suggest that Japanese politics were entering a new era -- an era not necessarily characterized by LDP dominance.

In pondering their upset, ruling party members acknowledge that a convergence of factors turned voters away from the LDP:

Recruit Co., Ltd. influence-peddling scandal - Last summer's revelation that key political figures and businessmen in Japan had profited from insider trading of Recruit Cosmos Co., Ltd. stock blossomed into the worst scandal to beset Japanese politics in recent history. Although the scandal started with the real estate firm, it quickly spread to encompass all political and corporate favors bestowed by its parent, which is involved in employment information and communications services. When the Tokyo Public Prosecutor's office announced May 29 that its arduous 260-day investigation into Recruit's influence-buying activities had ended, 14 government bureaucrats, businessmen and Diet members had been indicted -- mainly for bribery-related crimes -- and some 45 politicians, including Prime Minister Noboru Takeshita, had chosen or been forced to resign because of their involvement with the conglomerate (see JEI Report No. 22B, June 9, 1989).

Even before the arrests for bribery, public outcry over the Recruit affair was very strong. Japanese voters long have been aware that their elected representatives needed to raise enormous sums of money under the guise of serving their constituencies, which included jockeying for power within party factions. Yet the aggressive efforts of Hiromasa Ezoe, head of the Recruit organization, to make inroads into the inner decisionmaking circles by buying political influence caused the public to reassess the system and grapple with parameters for what is an accepted form of political behavior and what is intolerable (see JEI Report No. 10A, March 10, 1989).

The Recruit affair sorely offended the public's sense of what is just and fair. This is largely because the sums of money involved and the ease with which the politicians had access to it contrasted with the view of an increasing segment of the population that it is struggling under the mantle of inflated living costs. Japanese voters turned to the voting booth to register their distrust and dissatisfaction with the clubby, "smoky backroom" world of LDP politics. The dominoes began to fall in February 1989 when a JSP candidate won an upper house by-election in Fukuoka prefecture. This was followed by LDP defeats that same month in elections in Oita (gubernatorial) and Kagoshima (municipal) prefectures, which helped to build momentum for the aforementioned Niigata and Tokyo setbacks.

Consumption tax - The public's perception that the ruling party was out of touch with its interests and needs was reinforced with the LDP-led government's April 1 implementation of a 3 percent consumption tax -- a measure that was so controversial that the LDP had to use its majority to ram it through parliament last December (see JEI Report No. 1B, January 6, 1989). Implementation of the tax had a galvanizing effect on urban Japanese and particularly on women, who became increasingly active in various consumer protest groups. Women, who traditionally handle the household shopping and family finances, directly experienced the revenue-raising aspect of the tax because they were forced to pay more with each purchase. In essence, they took the tax personally; they were affronted by the immediate increase in their costs of maintaining a home. This dissatisfaction, against a backdrop of growing evidence of political corruption in the highest ranks of the ruling party, further mobilized Japanese women into a potent voting bloc. Their influence became increasingly clear in elections held after the impact of the tax began to be felt.

Liberalization of beef and orange quotas - What makes the LDP's losses in the upper house all the more significant is that ruling party candidates went down to defeat in many rural districts that until recently were considered inviolable LDP strongholds. Of the 26 rural constituencies where seats were up for election, the LDP won three; nine went to the JSP; another nine went to a new political group launched by the Japanese Private Sector Trade Union Confederation (Rengo), and the remainder was split among other parties. These results appear to reflect in particular the extreme unpopularity of the government's June 1988 decision to liberalize imports of beef, oranges and orange juice (see JEI Report No. 42A, November 4, 1988). Analysts also have speculated that Tokyo's 1987 and 1988 cuts in the producer price for rice (which was frozen this summer at last year's level when the ruling party sensed farm vote troubles) added to the negative sentiments feeding the public's anger at the LDP over Recruit and taxes.

Uno sex scandal - The proverbial straw that broke the camel's back with some Japanese voters concerned reports of then Prime Minister Sosuke Uno's marital infidelities. Mr. Uno, who had been foreign minister in the Takeshita cabinet, was selected June 1 as LDP party president by ruling party elders, who were relieved after a five-week search to find a successor for Mr. Takeshita untainted by the Recruit affair. Less than a week into his new administration, however, Mr. Uno became the target of reports that he not only had had sexual relations with geishas over several years but had treated them cheaply.

That this story ever saw the light of day is highly unusual in a nation that traditionally has respected a politician's privacy on these matters. Some Japanese political observers have suggested that this episode proved that Mr. Uno, who until that point was the only nonfaction leader to be elected prime minister in LDP history, lacked the requisite political influence and leadership capabilities to govern the country since he apparently was unable to prevent the story's publication.

In any event, these reports struck a raw nerve among the Japanese people -- including female Diet members, who urged the prime minister to testify before parliament on this matter. To add insult to injury, Mr. Uno's agriculture minister made several sexist remarks at a July 7 political gathering, including a highly inflammatory statement that JSP president Takako Doi was unfit for political leadership because, unlike British Prime Minister Margaret Thatcher, Ms. Doi is unmarried and has no children.

The so-called Uno sex scandal caused outraged women voters to flock toward the Socialist fold, where the charismatic Ms. Doi championed an overthrow of what, she maintained, had become a corrupt "old boys" club. But repercussions from the sex scandal also may have affected male voters more than they would admit openly. The geisha story, the agriculture minister's remarks and reports that none of his upper house colleagues had requested Mr. Uno's help in their campaigns created an impression that the new prime minister could not control his cabinet or his political agenda. "There [was] a perception that the Uno cabinet [was] undisciplined and not in control of state affairs," a Japanese political analyst was quoted as saying. "And that is the major factor in the electorate's loss of faith in the LDP." Even some members of the business community, a traditional bulwark of Liberal Democratic support, concurred. "The LDP's defeat reflected the fact that the Japanese public is increasingly critical of its arrogance and lax self-discipline as a ruling party," said Takuma Yamamoto, president of Fujitsu, Ltd.[1]

Reading the Electorate: Protest Votes or Pro-Socialist Shift?

The ruling party's repeated electoral failings this year might suggest that Japanese politics is undergoing a "revolution."[2] However, while voters emphatically have indicated that they are fed up with the ruling party's conduct and some of its policies, it would be premature to conclude that the electorate is shifting to the political left. The upper house election results, in particular, generally are interpreted as an anti-LDP reaction or backlash vote rather than an endorsement of the JSP's policies and leadership acumen.

[1] Katsuro Kitamatsu, "LDP Moving to Recapture Popular Base," Japan Economic Journal, August 5, 1989.

[2] "Japan's Next Revolution," Economist, July 29, 1989, p. 15.

At least until now, the Socialists really have not given the public much depth in the way of a concrete, coherent and practicable economic and/or foreign policy plan. The major thrust of JSP campaign rhetoric simply has been to hammer at the ruling party's shortcomings. Ms. Doi captured the public's attention because she articulated its anger over the consumption tax, liberalization of beef and orange imports and the LDP's ethical behavior, not because she offered fresh policy "vision." As will be discussed below, this weakness, as well as the JSP's lack of hands-on national leadership experience, may deter the Socialists from forging a consensus among the opposition parties in the upper house. It also may impede their ability to assume a leadership role in any LDP/opposition party coalition that may emerge as a result of lower house elections. By law these elections must be held before next July, although opposition parties are urging an earlier polling date.

However, the JSP's gains do offer a good example of a successful campaign strategy and how the personal appeal of a politician can give additional impetus to an emerging voting bloc. Ms. Doi was in the right place at the right time to exploit Japanese women's growing opposition to LDP policies and practices and general dissatisfaction with the male-dominated worlds of politics and business.

The Socialists launched what has been dubbed a "madonna" strategy -- that is, deliberately fielding as many female candidates as possible to attract the support of Japan's growing legions of disaffected women voters. And, to the surprise of some political pundits, "madonnas" proved successful in both the Tokyo municipal election and the upper house contest. An all-time high of 17 JSP female candidates won seats in the Tokyo election, up from nine in the 1985 contest. Of the 17 women elected to the House of Councillors in July, 10 are JSP members, an impressive showing since the Socialists fielded only 12 female candidates. But again, analysts surmise that Japanese women propelled these candidates to national office because of what they represented symbolically rather than substantively.

Another indication that the electorate was responding to Ms. Doi's charisma and anti-LDP vitriol rather than shifting its ideological views was the fact that Japan's other major opposition parties suffered a net loss of upper house seats. Komeito now has 21 votes, down from 23 in the last House of Councillors session; the Japan Communist Party delegation was reduced by three to 14; and the Democratic Socialist Party lost four seats, lowering its upper house representation to only eight members. (In the week following the election, two members of smaller parties aligned with the DSP, bringing its upper house tally to 10 at JEI press time.)

Both Komeito and the DSP had senior officials ensnared in the Recruit affair, which may have made these parties appear as tainted as the LDP. The Communists, who emerged relatively unscathed from the influence-peddling scandal, nevertheless were hurt by international developments beyond their control. The electorate negatively associated the JCP with the communist regime in Beijing, which less than two months before had brutally quashed a student-led democracy movement.

As mentioned, the opposition parties have indicated that they will use their majority in the upper house to block certain ruling party initiatives and champion their own proposals. But it remains to be seen whether the Socialists can forge a united opposition front. The JSP itself is a party with a long history of ideological factionalism. Thus, it may be difficult for the JSP to reach internal agreement on a variety of policy issues, let alone bridge the ideological differences among the other opposition parties (see JEI Report No. 41A, October 28, 1988). On the consumption tax, for example, the JSP has advocated abolishing the tax and, in its place, raising property taxes as well as making stock market transactions liable to a capital gains tax. While Komeito concurs that the consumption tax should go, the DSP favors retaining it.

For the longest time the biggest policy difference among the opposition parties was on defense: the JSP historically argued for abolishing the U.S.-Japan Mutual Security Treaty and dismantling Japan's Self-Defense Forces, while the DSP and Komeito supported Japan's defense relationship with the United States and the maintenance of defensive military forces. While the JSP appears to have adopted a softer line in recent statements on defense, conceding that it is not "realistic to think of an overnight abolishment of the Self-Defense Forces," it is unclear how far Ms. Doi will be willing to bend on an issue that has been a central plank of her party's platform. For that matter, given the primarily rhetorical nature of their policy proposals, it is questionnable whether the JSP and other opposition parties carefully have thought through how their policies might be implemented -- and whether these policies indeed would be improvements over any LDP efforts to address social and economic issues.

One analyst has suggested that rather than the JSP, Rengo, the political arm of the Japanese Private Sector Trade Union Confederation, may provide the "adhesive" that holds the noncommunist opposition parties together.[3] Whereas labor unions in the past lent their support to the JSP, DSP or JCP, the Rengo party was formed so unions might achieve through the political process what they were unable to realize through traditional labor-management negotiations. Rengo enjoys the support of all four major opposition parties. Of the 12 candidates it fielded in the upper house elections, 11 won -- an outcome Kent Calder of Princeton University described as "one of the most important developments of the election."

The new political entity has yet to clarify its policies and political ideology and does not appear to be in too great a rush to do so. Instead of focusing on policies, Rengo apparently sees its role as that of an opposition party facilitator or coordinator. According to Hideo Yamauchi of Keio University, Rengo "is a new breed of political group that is not conservative and not reformist, pursuing efficacy so it can be an adhesive to tie up various political parties."

While this sounds exactly like what the opposition parties need in order to effectively challenge the ruling party, it is too soon to tell whether Rengo can realize its aspirations. If it does not secure seats in the House of Representatives, it probably will not be able to keep the political opposition "glued" together.

LDP Scrambles to Retain Power

The LDP's August 8 selection of Toshiki Kaifu as party president and subsequently prime minister represented the ruling party's anxious effort to demonstrate to the electorate that it is open to new ideas and willing to change. New election procedures and reforms in the candidate-selection process, however, were not enough to offset indications that the ruling party had retained much of its intraparty political wheeling and dealing in selecting the 58-year-old former education minister for the top leadership slot. Time will tell whether the reforms made so far will be followed by future actions aimed at restoring the public's faith in the ruling party or whether Mr. Kaifu's selection will be viewed as a new twist on the old LDP "business-as-usual" theme. If the latter view takes hold, voters could wield the ruling party another -- far more disruptive -- setback in the lower house elections.

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[3] Masayoshi Kanabayashi, "Japan's Unions, Slipping at Workplace, Emerge as an Intriguing Political Force," Wall Street Journal, July 28, 1989.

One important break from the back-room bargaining that has characterized the ruling party's previous selection of its leaders was a decision by the LDP presidential management committee to allow members to vote by secret ballot for the new party president. Of the 447 LDP Diet members and delegates from each of the party's 47 prefectural organizations that cast votes August 8, Mr. Kaifu received 279 votes; his competitors, Yoshio Hayashi and Shintaro Ishihara, received 120 votes and 48 votes, respectively. By allowing prefectural representatives to participate for the first time ever, the LDP further opened the leadership selection process.

Another important reform decreased the number of Diet supporters needed by each potential LDP presidential candidate from 50 to 20. This change was meant to give politicians with smaller power bases as much of an opportunity to run for party leader as the major faction players. Even American-style political campaigning had an influence as the LDP election management committee sponsored a televised debate August 7 featuring Messrs. Kaifu, Hayashi and Ishihara. Although the candidates gave no ground-breaking policy statements or particularly stirring speeches, this event appeared to allow the Japanese public access to the leadership selection process that it never before had known.

In addition to these procedural changes, the LDP hopes its selection of Mr. Kaifu will persuade voters of the LDP's new outlook and woo them away from the magnetic Ms. Doi. Although lacking economic and foreign policy experience, Mr. Kaifu is considered one of the "younger generation" of ruling party politicians and is noted for his general competence and an eloquent speaking style. The new prime minister also is a former protege of the late Prime Minister Takeo Miki, who, during his tenure in the mid-1970s, was a strong advocate of political reform. Ruling party elders hope this association will suggest to voters the sincerity of the LDP's commitment to enact a comprehensive package of political reforms submitted May 19 to the Diet but not yet fully acted on (see JEI Report No. 21B, May 26, 1989).

Further reinforcing the idea of change in the ruling party, Mr. Kaifu took some bold new steps in naming his cabinet. While following the tradition of equitably allocating assignments to each of the major factions, the new prime minister appeared to deliberately pass over party elders to appoint younger colleagues, many of whom had never served in the cabinet. Thirteen of the 21 appointees reportedly are cabinet first-timers. In what may count as one of the most significant breaks from previous cabinet appointments, Mr. Kaifu chose two women to serve in his administration, an obvious attempt to win back Japanese women's trust and faith in the LDP. Sumiko Takahara, 56, will head the Economic Planning Agency and Mayumi Moriyama, 61, will lead the Environment Agency. (See JEI Report No. 32B, August 18, 1989 for a complete listing of the Kaifu cabinet.)

In the policymaking area the new prime minister has emphasized that his priorities are domestic issues, specifically the consumption tax and political reform, which is not altogether surprising since these issues contributed to the LDP's loss of control of the upper house. LDP members indicated even before the upper house election that the ruling party probably would consider modifications to the consumption tax -- such as doing away with the exemptions for private medical practitioners and/or expanding exemptions for basic necessities -- during the Diet's regular session that will convene in the fall. Mr. Kaifu has taken this promise one step further and proposed earmarking the tax for social welfare expenses in an effort to make the revenue-raising measure more palatable for voters.

This is not a new idea; former Prime Minister Takeshita proposed this approach in early 1987 but received stiff opposition from the Finance Ministry, which does not want to have its hands tied on how government revenues should be spent. The Japanese press recently reported that MOF can be expected to show continued resistance. But it is unclear whether Ryutaro Hashimoto, the new finance minister and one-time prime ministerial contender, will stand firm with MOF bureaucrats, back Mr. Kaifu's proposal or act as a middleman in finding a compromise.

Finance may feel pressured to bend if, as some analysts have speculated, the consumption tax/welfare linkage proves to be useful from a strategic political standpoint. Although Ms. Doi campaigned strongly against the tax, her party is not united in opposition. The more right-leaning segment of her party, which is close to the DSP on some issues, apparently favors a type of "welfare tax." Thus, if the Kaifu administration can recast the tax in this manner, it probably would be difficult for Ms. Doi to effectively orchestrate upper house resistance. This, in turn, might splinter the Socialists, which could complicate their goal of matching their summer gains in the next lower house election.

Political reform will be an equally challenging task for the new prime minister. In an August 7 campaign speech Mr. Kaifu acknowledged that "the environment surrounding the LDP is now the hardest since its founding [in 1955]," and he pledged to enact the package of political reforms prepared by former Prime Minister Takeshita's panel of "wise men." Designed to put an end to the money-guzzling campaigns and constituent services that fit hand in glove with the Recruit corruption, these measures would require more extensive financial disclosure from Diet members and prohibit the use of stock trading or other speculative deals as political contributions (see JEI Report No. 18B, May 5, 1989).

The ruling party has indicated its desire to enact these measures during the regular Diet session in the hope that this will provide the electorate with concrete evidence that the LDP has abandoned "money politics." Time is of the essence, particularly since the lower house elections must be held before July 1990. Given its flagging public support, the LDP naturally wants to wait as long as possible before agreeing to hold these elections in the hope that time will ease the public's anger. Ms. Doi, conversely, has been riding the LDP hard to schedule the elections as soon as possible so her party can continue to reap electoral benefits from the ruling party's problems.

But political insiders maintain that, as with the consumption tax, the Socialists are of two minds on this issue as well. On the one hand, they support Ms. Doi's position and acknowledge that recruiting fresh new faces to run on the JSP ticket could enhance the Socialists' prospects. On the other hand, long-time JSP supporters who have been waiting patiently in the wings are anxious to try for a lower house seat now that prospects for the party have improved; they might feel upstaged by the new recruits. In addition, some JSP members are concerned that the party does not have enough qualified candidates for each of the 512 seats in the more powerful lower chamber and would just as soon wait before plunging into a new, far more extensive campaign. Nevertheless, the LDP reportedly is preparing for what it sees as a worst-case scenario -- that is, it is attempting to gird itself for lower house elections in either October or November.

Even if the LDP does secure enactment of the political reforms before the lower house elections, it is problemmatic that the party's image problems will be rectified by this legislation alone. The Japanese electorate sees quite plainly that the new prime minister, although "formally" chosen by secret ballot, in fact was propelled to the top by the same factional bargaining that has determined Japan's prime ministers for the past 34 years.

As recently as August 2, for example, Toshio Komoto, a 78-year-old former trade minister and head of the 30-member faction of which Mr. Kaifu is a member, was considered a contender for the top post. However, he was eased out by party elders so that his more politically attractive lieutenant could run for the party presidency. Similarly, Mr. Hashimoto, considered the LDP's most popular politician at the grass-roots level and a member of the Takeshita faction, was knocked out of the running by his own faction leaders. The official reason given was that the Takeshita faction decided to forgo fielding a candidate to atone for pushing the candidacy of Mr. Uno, whose embarrassing political baggage helped drag the party down to defeat in the July 23 elections. Japanese political insiders suggest the real reason is because Mr. Hashimoto was not popular with some party elders.

Mr. Kaifu, however, was put forward as a safe compromise between those in the party who felt that a new direction was needed and those who were reluctant to abandon the LDP's "elder statemen" leadership style. Thus, with both Messrs. Hashimoto and Komoto out of the way, it was not difficult for Mr. Kaifu to line up the support of four of the six intraparty factions by the August 4 deadline for candidate registration, thereby assuring his election to party president four days later (see JEI Report No. 31B, August 11, 1989).

This maneuvering was not lost on the Japanese public. In view of the intraparty wheeling and dealing that preceded Mr. Takeshita's accession to the prime minister post -- and subsequent revelations of sizeable contributions from Recruit that appeared to coincide with his final lock on the position -- the electorate would not be merciful in the voting booth if even the slightest hint of LDP-related graft were to surface in connection with Mr. Kaifu's selection.

Prospects: A Coalition Government?

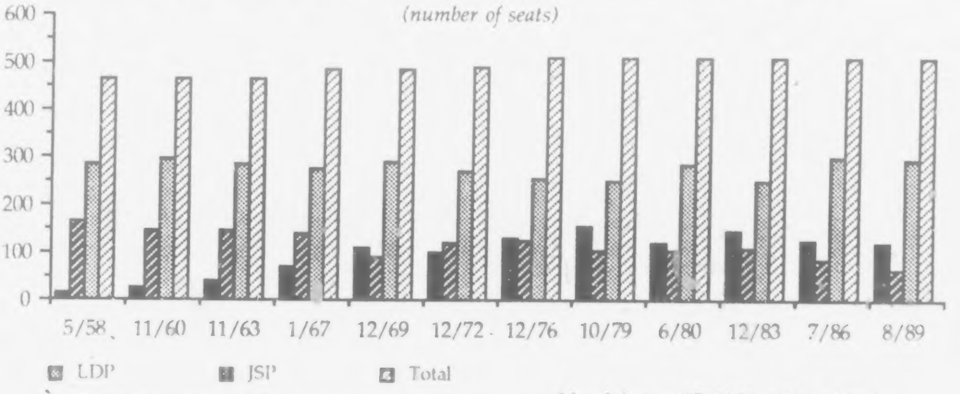
Political developments - The biggest question on the minds of Japan watchers is whether the LDP will lose control of the government. As the above suggests, this will depend, in part, on how the Kaifu administration deals with the consumption tax and whether the ruling party makes good on its pledge to enact political reforms and stays "clean" of further charges of political corruption. It also will depend on whether Mr. Kaifu, unlike his immediate predecessor, successfully projects an image of leadership competence and stability. His supporters contend that the new prime minister, despite his lack of high-level leadership experience, has what it takes to lead the LDP out of its mess and stands a good chance of being reelected party president in October. (October would have marked the end of Mr. Takeshita's term.)

Mr. Kaifu's critics, however, portray the new prime minister as nothing but a "seatwarmer" for a party elder, such as former LDP secretary general Shintaro Abe, who was considered Mr. Takeshita's heir apparent before the Recruit affair forced them both from office. Should the latter scenario play out before the lower house elections, the electorate no doubt will go to the polls with renewed anger that the LDP has misled them again and cast their votes accordingly. Mr. Abe played an important role in arranging both Mr. Uno's and Mr. Kaifu's moves into power. If he were to gain the lead job, the LDP's image of power politics would gain even greater prominence.

But even if the ruling party again selects Mr. Kaifu to lead the party, it is unclear whether this would shore up LDP support at the grass roots. Disillusionment with the ruling party has become so deep-seated that a surprising number of prominent members of the business community voted for Socialists in the July 23 elections. As discussed above, their voting behavior was largely retaliatory. The electorate was not terribly concerned about the policy implications of its actions, analysts contend, because the House of Councillors is not the main governing body. But voters would not behave so dramatically in selecting representatives for the powerful House of Representatives, the argument goes, particularly when LDP-led governments have brought them economic prosperity and propelled the nation to a global economic leadership position. Also, as indicated in Chart 3, during the course of its 34 years in power the ruling party has had its share of ups and downs and, even after the worst of its upsets (such as in 1983), has been able to rebound.

Chart 3: Results of Lower House Elections, 1958-1989*

(number of seats)



Source: Gerald L. Curtis, The Japanese Way of Politics (New York, N.Y.: Columbia University Press, 1988).

*As of August 15, 1989 a lower house election had not yet been held. The 1989 figures reflect the parties' current strength in this chamber.

However, economic conditions appear to have created a markedly different political climate in 1989. Reports of lucrative stock "gifts" to politicians are no longer tolerable to a population frustrated with the gap between their standard of living and the country's global economic power. Japanese political insiders speculate that, notwithstanding Mr. Kaifu's able stewardship, the LDP will incur additional losses in the lower house elections. One analyst forecasts that ruling party strength may drop to as low as 240 seats, down from its current 293. While this outcome by no means hands the reins of power to the JSP, the LDP would have to form a coalition with one or more of the opposition parties in order to govern effectively.

It is unclear who exactly would comprise an LDP/opposition party coalition. Although the DSP and Komeito are closer to the ruling party on policy and ideology, their record on political corruption is not much better than the LDP's, which may not make them very attractive partners. Another scenario might see the LDP drawing from one of the more conservative Socialist factions. If Rengo secures enough seats in the lower house, the labor entity may be another possible coalition partner, particularly since it is relatively nonideological. The most disturbing possibility, in political observers' minds, is that there will be such divisiveness between the LDP and the opposition parties -- as well as within the opposition parties -- that no one will be able to lead the country; a governing vacuum would be created by the resulting paralysis.

Some Japan experts, such as former U.S. Ambassador Mike Mansfield, have argued that the upper house elections have set the stage for the emergence of a two-party system in Japan. This prediction may be premature, even if the LDP loses in the lower house. According to Robert M. Orr Jr. of Temple University-Japan, the structure of the lower house electoral districts is much different from that of the upper house, allowing for much closer relations between individual politicians and their constituents. "Koenkai [politicians' local support groups] is a far more important factor in lower house contests," Mr. Orr says, by way of explaining that voters more often than not vote "for the person" rather than "for the party." Moreover, in many districts the JSP candidates would be competing against other opposition party candidates as well as the LDP for a particular seat. These factors would make it more difficult for the Socialists to surge ahead as they did in the upper house elections.

Policy implications - American observers of recent Japanese political developments are most concerned about how this upheaval will affect Tokyo's trade and defense policies toward the United States. In the short term, there will be virtually no impact since government bureaucrats are insulated from the political process and are vested with the responsibility of administering various aspects of bilateral relations on a day-to-day basis. Negotiations aimed at addressing structural impediments in U.S.-Japan economic relations, for example, will continue as planned, led by the representatives from the relevant ministries. In fact, bureaucrats' influence in government policymaking may well expand as the ruling party turns inward, focusing its attention on domestic economic and political matters. In Prof. Orr's words, "We'll see politicians focus far greater attention on pork-barrel politics than on international politics."

If legislation is required to implement international policy initiatives, the LDP may find that it no longer can be as responsive to U.S. or other foreign countries' demands. Given voters' backlash on the beef and citrus import liberalization plan, political analysts foresee greater resistance from

Tokyo in opening up its rice market. There also is speculation that a JSP-led opposition would work hard to derail proposals to dismantle Japan's arcane distribution system since this initiative may create unemployment.

Of deep concern to the Pentagon is whether the JSP's increased influence will affect Japan's ability to satisfy its self-defense roles and missions under the rubric of the Mutual Security Treaty. Juro Matsumoto, the new director general of the Japan Defense Agency, already has pledged to hold down defense spending to approximately 1 percent of Japan's gross national product. Washington is concerned that the JSP will insist that defense budgets be trimmed still more.

Mr. Kaifu has sought to reassure Washington that "the foundation of Japanese diplomacy lies in its relationship with the United States." The new prime minister reportedly plans to visit Washington as early as next month to establish personal relations with President Bush. But the new road could be rocky. Mr. Kaifu, who was in Washington this past May to attend a conference for American and Japanese legislators, was said to have found the mood in the United States "emotional" and not amenable to "logic or reasoning." "Instead of getting emotional, we should talk together and make mutual efforts," he was quoted as saying. In sum, domestic political pressures may force the Japanese government to assume a tougher line in its negotiations with the United States, which means that bilateral relations could enter some tense times.

Conclusion

Are Japanese politics entering a new era? The upper house election results, in effect, have poured cold water on the ruling party and forced it to let go of some longstanding practices. But, as Prof. Orr states, "July 23 was no 'Bastille Day.'" Even if the LDP is forced to form a coalition government as a result of lower house losses, one still cannot conclude that Japan has been swept into political revolution. The electorate appears to have indicated that it wants "cleaner," more responsive politics, not Marxist ideology. The shakeout that is bound to occur during the next six months probably will give the Liberal Democratic Party an opportunity to grow stronger, more open and more credible in voters' eyes. The opposition parties will have their own agenda, but given its years of political expertise the LDP may yet rebound.

For further information, contact Barbara Wanner.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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JEI

REPORT

A Two-Part Report: A and B

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Kaifu Chooses Cabinet

In a determined effort to present the Japanese public with a "new beginning," Prime Minister Toshiki Kaifu August 9 selected a cabinet that includes two women and does not retain any member of the outgoing cabinet of his predecessor, Sosuke Uno. The prime minister stated that the most important task of his new administration, which was installed August 10, is to promote reforms to Japan's political system and establish higher ethics among elected officials. The ruling Liberal Democratic Party's unprecedented loss of its majority in the Diet's upper house as a result of the July 23 House of Councillors elections reflected public criticism of "unfairness in the political process and a loss of confidence [in the LDP]," Mr. Kaifu declared.

As with the selection of the prime minister himself, however, intense interfactional bargaining seemed to determine the new cabinet lineup, suggesting that traditional LDP "insider politics" prevailed. The ruling party tried to accomplish the somewhat conflicting goals of demonstrating that it had changed its ways while in fact not changing at all. Some analysts say the manner in which the cabinet was chosen is evidence of the prime minister's weak domestic political standing and does not bode well for his tenure in office.

Unlike nearly all of his predecessors, Mr. Kaifu is not a faction leader. The public, however, may have the last word on Mr. Kaifu's leadership as well as the LDP's overall governing capabilities when it goes to the polls again, probably before the year's end, to select representatives to the more powerful Diet lower house.

The new cabinet as a whole is younger than previous cabinets, suggesting a new vigor and vitality in the conservative party (see Table). But certain appointees appear to lack substantive expertise in his or her ministry's area,

Kaifu Cabinet

August 10, 1989

Position	Name	Age	Faction
Prime Minister	Toshiki Kaifu	58	Komoto
Deputy Prime Minister	Ryutaro Hashimoto	52	Takeshita
Finance	Ryutaro Hashimoto	52	Takeshita
Justice	Masao Goto	76	Miyazawa
Foreign Affairs	Taro Nakayama	64	Abe
Education	Kazuya Ishibashi	67	Abe
Health and Welfare	Saburo Toida	71	Takeshita
Agriculture, Forestries and Fisheries	Michihiko Kano	47	Abe
International Trade and Industry	Hikaru Matsunaga	60	Nakasone
Transportation	Nakami Eto	64	Nakasone
Posts and Telecommunications	Senpachi Oishi	53	Nakasone
Labor	Joji Fukushima	62	Takeshita
Construction	Shozo Harada	66	Miyazawa
Home Affairs	Kozo Watanabe	57	Takeshita
State Ministers:			
Chief Cabinet Secretary	Tokuo Yamashita	69	Komoto
Management and Coordination Agency	Kiyoshi Mizuno	64	Miyazawa
National Land Agency	Hajime Ishii	54	Takeshita
Japan Defense Agency	Juro Matsumoto	71	Abe
Economic Planning Agency	Sumiko Takahara	56	Unaligned
Science and Technology Agency	Eizaburo Saito	76	Nakasone
Environment Agency	Mayumi Moriyama	61	Komoto
Okinawa and Hokkaido Development Agencies	Fumio Abe	67	Miyazawa
Cabinet Legislative Bureau	Atsuo Kudo	57	Unaligned

Top LDP Officers

Position	Name	Age	Faction
Secretary General	Ichiro Ozawa	47	Takeshita
Chairman, Executive Council	Shunjiro Karasawa	59	Nakasone
Chairman, Policy Affairs Research Council	Hiroshi Mitsuzuka	62	Abe

which is not unusual in parliamentary systems. A case in point was the selection of Ryutaro Hashimoto to head the Ministry of Finance. Mr. Hashimoto, who at one point also was a contender for LDP party president, is admired for his political skills, which are credited with helping to propel then Finance Minister Noboru Takeshita in July 1987 to the head of the LDP's largest faction. The new prime minister is said to think these skills will be imperative in implementing possible changes in the consumption tax and tackling other difficult macroeconomic policy issues. However, some Japanese political insiders have suggested that certain party elders pushed Mr. Hashimoto's appointment to Finance because the demands of the position would keep him so busy that he would find little time to further expand his power base and public popularity.

Proven political skills, rather than policy background, also appeared to be important in the appointment of the new foreign minister, Taro Nakayama. Mr. Nakayama was a director general of the Management and Coordination Agency and is a doctor by training. His political credentials may have brought him to Mr. Kaifu's attention, however; he was LDP secretary general in the House of Councillors, the party's number-two position in this chamber.

But other appointees do have relevant policy experience. The new minister of International Trade and Industry, Hikaru Matsunaga, served as acting chairman of the LDP's Policy Research Affairs Council during Mr. Takeshita's administration. In former Prime Minister Yasuhiro Nakasone's second cabinet, he was education minister. When the Recruit Co., Ltd. influence-peddling scandal first broke, Mr. Matsunaga insisted that those politicians involved should come forward and assume responsibility, a reform-minded approach that the LDP hopes the public will find appealing. Juro Matsumoto, the new director general of the Japan Defense Agency, is a former senior Finance Ministry bureaucrat. More recently, he served as parliamentary vice minister of foreign affairs.

In an apparent effort to placate women voters offended by the consumption tax and former Prime Minister Uno's alleged extramarital affairs with geishas, Mayumi Moriyama was appointed director general of the Environment Agency and Sumiko Takahara was tapped to head the Economic Planning Agency. Ms. Takahara, formerly with Mainichi Shimbun and until recently a freelance commentator specializing in economic affairs, is the first female nonpolitician to be named to a cabinet in Japanese parliamentary history. She also has served on a number of government advisory bodies, such as the Tobacco Industries Council, the Tax Council and the Employment Council.

Some political analysts have predicted that Ms. Moriyama, who is fluent in English and represented Japan at the 1985 United Nations conference on women held in Nairobi, quickly will establish herself as an important cabinet member. On graduation from Tokyo University, Ms. Moriyama entered the Labor Ministry and became the youngest chief of the Women's Bureau at the age of 46, a post she held for six years. She has been elected to the upper house twice from Tochigi prefecture.

According to Japanese news reports, Mr. Takeshita, who resigned under the cloud of the Recruit affair, as well as former LDP secretary general Shintaro Abe, who also resigned due to his involvement with the information and employment services conglomerate, still appear to wield considerable political clout. They apparently exerted a strong influence in determining the factional balance of the 21-member cabinet. The leadership posts for the most part were distributed among the factions led by Messrs. Takeshita, Nakasone and Abe, with only four positions given to members from the second-largest faction led by former Finance Minister Kiichi Miyazawa. Japanese political observers speculate that this rebuff was due to Mr. Miyazawa's strong support for Yoshio Hayashi for LDP president and prime minister. The 30-member faction of Toshio Komoto, of which Mr. Kaifu is a member, received two cabinet appointments. It should be noted that while the composition of Mr. Kaifu's cabinet for the most part reflects the factional influence of party elders, the prime minister tapped fewer senior members of the major factions and did not reappoint former cabinet officials in an effort to present the public with fresh new talent.

The Kaifu administration faces a difficult agenda. In an August 11 nationally televised press conference, the prime minister said he will strive for reforms in politics, taxes, administration and agriculture. Mr. Kaifu said he agrees with calls for a review and the possible revision of the controversial 3 percent consumption tax and added that he is inclined to favor using the revenue raised for social welfare purposes. Public outcry over the consumption tax was an important factor behind the LDP's stunning defeat in the July 23 upper house elections (see JEI Report No. 32A, August 18, 1989).

Barbara Wanner

Economic White Paper Identifies Structural Changes In Japan

Onward and upward. That phrase could serve as a quick summation of the direction that the Economic Planning Agency expects for Japan's economy. As described in EPA's annual Economic White Paper released in early August, Japan's economy is radically different from just a few years ago: more advanced, robust and invulnerable. Consumers, for example, have more diversified tastes and demand a broader range of better products and services. Firms are able to use new technology to control inventories more effectively than in the past and thereby avoid some kinds of behavior associated with business cycles. For this reason, EPA sees little chance of a "homemade" recession occurring in Japan; downturns are far more likely to be the consequence of imported shocks, such as sudden currency movements or oil price surges. Finally, even the symbols of Japan's economy have been refined: semiconductors have replaced steel as the symbolic "rice" of the Japanese economy.

But EPA admits that the makeover is not complete. Prices in Japan for a broad variety of goods and services, which had been roughly in line with those charged in other countries before the yen began appreciating in 1985, now are often much higher. By contrast, prices at home and abroad for goods produced by Japan's export-oriented industries have risen much less than overall prices. This suggests, among other things, the likelihood of greater productivity increases in export industries and glaring differences in productivity across industries in Japan. The direct measurements of productivity tell a similar story: the rate of productivity growth in agriculture and related industries in Japan has lagged that of other countries, such as the United States and West Germany, while that for many manufacturing industries has been higher in Japan than elsewhere.

Correcting price discrepancies is imperative for Japan's more complete makeover, EPA says. One obvious way would be to increase imports, which would apply to the United States. According to EPA, the bilateral trade imbalance is a macroeconomic phenomenon that will be solved only when this country reduces its excessive demand.

In summary, EPA argues that the Japanese economy has entered a new, unexplored area, with the result that both the problems and the solutions are different from those in the past. On the whole EPA is remarkably upbeat about both the long- and the short-term prospects for the Japanese economy. Japan will easily outgrow some of the leading remaining problems. But, in specifying in some detail how the economy functions, EPA also is saying that the working of some miracles lies even beyond the reach of the Japanese economy or its policymakers.

Douglas Ostrom

MITI Reports On Foreign Subsidiaries

The Ministry of International Trade and Industry's 21st survey of foreign affiliates in Japan reveals that the local subsidiaries of foreign companies have higher profit ratios and import more than the average domestic firm. According to the survey, the growth potential of the Japanese market is the primary reason why foreign companies initiate operations in Japan. The survey also highlights, however, the relatively small role foreign firms play in the overall Japanese economy.

MITI surveyed 2,709 companies with a foreign stake of 50 percent or greater about their operations for the year ending March 31, 1987. The 1,052 returns MITI received paint an interesting picture.

- The respondents recorded total sales of Y10.2 trillion ($72.9 billion at Y140=$1.00) in FY 1986, an 11 percent gain over the previous year. These revenues represented just 1 percent of sales by all Japanese corporations. Foreign firms have a larger presence in the manufacturing sector, accounting for 1.9 percent of all sales in that sector. Despite this miniscule overall presence, foreign firms have established a solid position in Japan in at least two markets. Overseas subsidiaries made 29.1 percent of all sales in the oil and coal industries and rang up 5.3 percent of Japan's domestic chemical sales.

- In spite of their small presence, foreign subsidiaries had an average ratio of ordinary profits to sales of 5.3 percent, which easily outpaced the overall Japanese average of 2 percent (see Table 1). This also was true in the manufacturing sector where foreign firms showed a 5.7 percent to 2.8 percent edge. In fact, the only area where foreign firms lagged behind their domestic counterparts was in the nonelectric machinery sector. While foreign firms historically have been more profitable from an overall standpoint, it appears that the gap is widening.

- The foreign subsidiaries responding to the survey were net importers in FY 1986, buying Y2.8 trillion ($20.1 billion) from abroad while sending nearly Y1.2 trillion ($8.3 billion) overseas (see Table 2). If the oil industry is removed from consideration, Japanese companies controlled by foreigners purchased Y1.5 trillion ($11 billion) worth of foreign goods, 10.3 percent of

Japan's total nonoil imports. These same firms also were net importers, helping to diminish Japan's trade surplus by Y440.7 billion ($3.1 billion). When the trade behavior of American and European subsidiaries are compared, both are revealed to be net importers (see Tables 3 and 4). While American firms generate a greater absolute amount of trade, European firms generally run a greater trade deficit.

Table 1: Average Ratio of Ordinary Profits to Sales of Foreign Affiliates in Japan, FY 1982-FY1986

(in percent with domestic Japanese average in parenthesis)

	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986
All Sectors	2.3% (1.8)	3.5% (1.8)	3.4% (2.1)	4.2% (2.1)	5.3% (2.0)
Manufacturing	2.7 (2.8)	4.3 (2.9)	3.7 (3.6)	5.4 (3.2)	5.7 (2.8)
Manufacturing (excl. oil)	6.7 (2.9)	6.8 (3.0)	6.3 (3.7)	8.2 (3.4)	7.3 (2.8)
Chemicals	5.4 (3.8)	5.4 (4.7)	4.4 (5.2)	5.4 (5.0)	5.9 (5.3)
Nonelectric machinery	3.0 (4.1)	2.6 (3.3)	3.4 (3.8)	4.8 (4.0)	1.0 (2.7)
Electric machinery	12.1 (5.1)	12.1 (5.3)	12.8 (6.0)	13.0 (4.6)	12.2 (2.8)
Transport machinery	3.1 (3.6)	5.0 (3.6)	4.6 (4.1)	4.1 (4.4)	5.1 (3.4)
Commerce	1.7 (0.7)	5.6 (0.8)	2.3 (0.9)	1.8 (0.9)	4.4 (1.0)

Table 2: Trade of Foreign Affiliates in Japan, FY 1986

(in billions of yen)

	Exports	Imports	Balance
All Sectors	Y1,157.8	Y2,813.3	Y-1,655.5
Manufacturing	773.5	2,096.7	-1,323.2
Manufacturing (excl. oil)	717.3	825.7	-108.4
Food	0.1	26.0	-25.9
Chemicals	78.5	174.9	-96.4
Pharmaceuticals	20.9	160.6	-139.7
Petroleum	56.2	1,271.0	-1,214.8
Nonferrous metals	53.4	5.3	48.1
Nonelectric machinery	149.0	69.1	79.9
Electric machinery	376.9	276.8	100.1
Transport machinery	13.8	20.9	-7.1
Commerce	152.5	706.4	-553.9

Table 3: Trade of U.S. Affiliates in Japan with the United States, FY 1986

(in billions of yen)

	Exports	Imports	Balance
All Sectors	Y421.1	Y541.0	Y-119.9
Manufacturing	332.7	392.6	-59.9
Manufacturing (excl. oil)	283.5	384.2	-100.7
Food	0.0	3.1	-3.1
Chemicals	17.9	93.0	-75.1
Pharmaceuticals	4.8	32.8	-28.0
Petroleum	49.2	8.4	40.8
Nonferrous metals	0.6	2.3	-1.7
Nonelectric machinery	55.1	32.7	22.4
Electric machinery	185.1	195.8	-10.7
Transport machinery	9.7	13.6	-3.9
Commerce	79.1	147.0	-67.9

Table 4: Trade of European Affiliates in Japan with Europe, FY 1986

(in billions of yen)

	Exports	Imports	Balance
All Sectors	Y76.8	Y393.5	Y-316.7
Manufacturing	39.2	232.5	-193.3
Manufacturing (excl. oil)	39.2	220.9	-181.7
Food	0.0	1.7	-1.7
Chemicals	4.4	38.8	-34.4
Pharmaceuticals	6.6	81.5	-74.9
Petroleum	0.0	11.6	-11.6
Nonferrous metals	7.7	0.0	7.7
Nonelectric machinery	1.2	14.5	-13.3
Electric machinery	18.6	17.8	0.8
Transport machinery	0.1	4.5	-4.4
Commerce	29.3	155.4	-126.1

Source for Tables 1-4: Ministry of International Trade and Industry

- When asked why they established a Japanese presence, nearly 50 percent of all respondents answered that "the growth potential of Japanese markets" was the main reason. Using Japan as a base of operations to cover all of Asia was the next most cited reason, followed by access to advanced Japanese technology. Procuring parts or raw materials and benefiting from Japanese labor costs were minor considerations, according to the survey.

- Finally, MITI found that foreign firms were paying greater attention to Japan as a location for research and development. In FY 1984, the survey revealed, foreign affiliates employed 2,999 researchers at 98 facilities and spent Y61.2 billion ($437 million) or 0.5 percent of sales on R&D. Two years later the number of researchers had grown to 5,192 working at 125 locations. The ratio of R&D outlays to sales also had risen to 0.8 percent, representing total expenditures of Y67.6 billion ($483 million).

MITI points to the survey as evidence that Japan can be highly profitable for foreign firms. Others might say that the study only underscores how difficult it is for foreign firms to penetrate Japanese markets even though formal barriers to foreign direct investment were dismantled years ago.

Jon Choy

Tokyo Supports U.N. Peacekeeping Fund

Japan established a new fund August 1 to support the United Nation's peacemaking and peacekeeping activities. Tokyo's initial capitalization will total $2.5 million with other major U.N. donors also expected to contribute. Financial difficulties that have left almost all of the U.N. peacekeeping operations running in the red provided the impetus for the new fund.

Augmenting Tokyo's assessed contributions to the United Nations, the $2.5 million will come out of Japan's supplemental budget, which in recent years has earmarked additional voluntary funding for U.N. agencies. Although figures for Japan's overall 1988 support are unavailable, Tokyo's backing amounted to $359 million in 1987. This financing -- both assessed and voluntary -- was second only to that of the United States, which had 1987 contributions of $590 million. Included with Japan's 1988 donations was roughly $20 million for U.N.-sponsored peacekeeping activities in Afghanistan, Iraq and Iran.

Japan's delegate to the United Nations, Teruo Kijima, was influential in establishing the peacekeeping fund, which he had proposed in April. Without assurances of new funding the increasing requests for help in troubled regions will be hard for the United Nations to meet. For example, U.N. forces were committed to Namibia April 1, but less than 25 percent of the more than $400 million needed for operations had been raised by that time. If Vietnamese troops withdraw as planned in September and if a peace settlement among Cambodian factions is reached, U.N. forces also are expected to play a role in peacekeeping in Cambodia. Japan has indicated that it will make a major financial contribution to support U.N. peacekeeping forces in the region when a settlement is achieved.

While Japan financially supports U.N. peacekeeping efforts, Tokyo interprets the Japanese constitution as prohibiting the government from sending the Self-Defense Forces abroad even as peacekeepers. A government survey released at the end of July also indicated that a plurality of Japanese citizens do not want the Self-Defense Forces to be involved with U.N. peacekeeping efforts. In the poll 47 percent of the respondents said they opposed sending Japanese troops overseas to assist in peacekeeping while only 22 percent indicated their approval. In contrast, over 70 percent of those polled felt it would be acceptable for the Self-Defense Forces to be involved with overseas disaster relief; only 20 percent disapproved.

Although Japan does not provide troops for peacekeeping operations, both Mr. Kijima and Yasushi Akashi, under secretary general of the United Nations

Trade and Payments Data

(in millions of dollars unless otherwise indicated)

	1987	1988	January-June 1988	January-June 1989	April 1989	May 1989	June 1989
Japan's Balance of Payments							
Trade Balance	$96,386	$95,012	$43,469	$40,930*	$8,123*	$5,058*	$6,438*
Exports (f.o.b.)	224,605	259,765	122,904	133,338*	22,796*	21,325*	22,272*
Imports (f.o.b.)	128,219	164,753	79,435	92,408*	14,673*	16,267*	15,834*
Current Account Balance	87,015	79,631	36,988	30,051*	6,483*	3,388*	4,116*
Long-Term Capital (net)	-136,532	-130,930	-51,698	-35,708*	-16,241*	-12,252*	-1,603*
Overall Balance	-29,545	-28,982	-11,009	-2,926	-23,232	-12,456	8,808
International Reserves (end of period)	81,479	97,662	87,700	89,462	100,361	95,694	89,462
Japan's Customs Clearance Trade							
Trade Balance	79,706	77,563	33,692	33,469*	7,318	3,761	5,291*
Exports (f.o.b.)	229,221	264,917	125,457	135,833*	23,225	21,707	22,654*
Cars	35,693	38,671	18,787	19,803*	3,738	2,940	3,037*
Steel	12,610	15,322	7,034	7,597*	1,282	1,238	1,265*
Imports (c.i.f.)	149,515	187,354	91,765	102,364*	15,908	17,946	17,363*
Crude Oil	20,663	18,852	10,522	10,276*	1,803	1,775	1,550*
Manufactured Products	65,961	91,838	44,144	51,020*	8,040	8,728	8,665*
Japan-U.S. Trade							
Trade Balance	52,090	47,597	20,921	22,108*	4,557	2,754	3,635*
Exports (f.o.b.)	83,580	89,634	41,469	45,724*	7,924	7,140	7,932*
Imports (c.i.f.)	31,491	42,037	20,549	23,616*	3,366	4,387	4,297*
Yen-Dollar Exchange Rate (average for period)	Y144.64	Y128.15	Y126.81	Y133.26	Y132.08	Y138.35	Y143.79
U.S. Trade							
Trade Balance	-152,119	-118,526	-56,595	-50,041*	-6,818	-9,625	-9,122*
Exports (f.a.s.)	254,122	322,426	158,543	182,186*	31,367	31,271	31,159*
Imports (Customs)	406,241	440,952	215,138	232,227*	38,185	40,896	40,281*
U.S.-Japan Trade							
Trade Balance	-56,326	-52,070	-24,121	-24,521*	-3,893	-4,281	-3,940*
Exports (f.a.s.)	28,249	37,732	18,228	21,605*	3,637	3,603	3,966*
Imports (Customs)	84,575	89,802	42,350	46,126*	7,530	7,884	7,907*

*Preliminary

A

Japanese Economic Indicators

(percent change from year-earlier period unless otherwise indicated)

	1987	1988	January-June 1988	January-June 1989	April 1989	May 1989	June 1989
Discount Rate (end of period)	2.5%	2.5%	2.5%	3.25%	2.5%	3.25%	3.25%
Outstanding Money Supply	10.4%	11.2%	11.7%	10.0%*	10.2%	9.4%	9.4%*
Industrial Production	3.4%	9.5%	10.6%	7.4%*	6.1%	7.4%	7.3%*
Manufacturing Operating Rate	0.1%	5.9%	6.4%	n.a.	3.1%	3.9%	n.a.
Number of Bankruptcies	-27.6%	-20.0%	-20.4%	-26.2%	-29.1%	-25.4%	-23.2%
Residential Construction Starts	22.7%	0.6%	8.8%	-2.4%	4.4%	-0.4%	-2.1%
Job Openings to Applications (ratio)	0.70	1.02	0.94	1.20	1.16	1.27	1.34
Nominal Wages	1.9%	3.8%	3.1%	4.6%*	4.0%	4.0%	6.8%*
Labor Productivity	5.8%	11.5%	12.5%**	10.1%**	n.a.	n.a.	n.a.
Wholesale Prices	-3.7%	-1.0%	-0.8%	1.7%	2.5%	3.4%	3.7%
Consumer Prices	0.1%	0.7%	0.5%	1.9%	2.4%	2.9%	3.0%
Yen-Based Export Prices	-5.1%	-2.2%	-3.8%	4.0%	3.5%	5.7%	7.5%
Yen-Based Import Prices	-8.3%	-4.6%	-3.4%	5.0%	6.8%	10.6%	10.7%

**January-March of each year only.

For Japan's most recent GNP figures, see JEI Report No. 25B, June 30, 1989.

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REPORT

A Two-Part Report: A and B

NO. 33A August 25, 1989

1989 UPDATE ON THE LIBERALIZATION OF JAPANESE FINANCIAL MARKETS

Summary

Having solved most of the "easy" financial liberalization issues, the Ministry of Finance is edging toward resolution of such sensitive issues as insider trading, the barrier between investment and commercial banking, deregulation of deposit interest rates and foreign access to Japan's financial markets. Even as MOF moves ahead, however, new issues are cropping up that could lead to far-reaching changes, not only in Japan's financial markets but in business behavior as well.

Moving Ahead, But Still Behind

Financial liberalization in Japan is entering a new period of intense debate and examination. A 1988 report commissioned by the Economic Planning Agency warned that Tokyo financial markets are falling behind their London and New York competitors in the race for complete liberalization and integration with global markets. The slow rate of liberalization could prevent Tokyo from fulfilling its potential as a global money center, the report says. The Finance Ministry realizes that it must move forward on liberalization, but progress is becoming more difficult as the issues gain complexity.

To compile the report for EPA the Japan Research Institute surveyed 107 foreign and 94 Japanese firms. The non-profit think tank examined four areas of services trade, with particular attention paid to the financial field. "The institutional incompleteness of short-term money markets interferes with internationalization of the Tokyo money market," the survey concludes. It points out that Tokyo's markets lag in many respects. Tokyo ranks third in terms of daily foreign exchange trading volume behind first-place London and New York;

the outstanding volume of Tokyo short-term money markets is a fraction of its American and British competitors; and the controls put on Tokyo's markets are stifling compared to regulations in New York or London. The report underscores the last point by referring specifically to a drop in lending in Japan by foreign banks, which are dependent on short-term markets for fund-raising. "Strict administrative guidance by the Finance Ministry, in substance, blocks foreign banks from mergers and acquisitions of Japanese banks in an attempt to expand their retailing activities, which they expect to contribute to lower fund-raising costs," the EPA report explains.

"We must admit that Tokyo lags far behind London and New York in terms of market openness," the report goes on to charge. Although the data are old, the report claims that as of October 1984, London subsidiaries of Japanese banks held 21.9 percent of the financial assets in that market, while the share of all foreign banks in Tokyo came to just 1.3 percent. Moreover, while Japanese securities firms bought 40 to 60 percent of all newly issued U.S. Treasury bonds in 1986 and 1987, the foreign share of Japan's primary government bond market is small (but growing). Since JEI's last report on this subject (JEI Report No. 6A, February 12, 1988), MOF has tried to address a wide range of issues.

Banking On Reform

The once staid Japanese banking market is being shaken from top to bottom. The increasing intensity of domestic and international competition is forcing both the government and financial institutions to reexamine traditional practices and structures. Debate over fundamental issues -- including the barrier between investment and commercial banking, divisions within the banking industry and deregulation of interest rates -- has split both the Ministry of Finance and the private sector into several factions. In its incremental approach to reform MOF is trying to carefully balance the gains and the losses for each faction, no simple task. The ministry and the industry, however, realize that Japan must move ahead if it is to remain an internationally competitive financial center.

Article 65 - MOF's Financial System Research Council has established a special expert subcommittee composed of academics and businessmen to deal with the sensitive and difficult issue of how to allow commercial banks and securities firms to compete in each others' markets. Article 65 of the Securities and Exchange Law, modeled after the United States' Glass-Steagall Act of 1933, establishes a wall between domestic commercial banking and brokerage activities. After tasting this forbidden fruit by being allowed to compete freely in Europe, Japanese banks and brokers have acted aggressively to create or expand holes or gray areas in the Article 65 wall at home and abroad.

In the United States, for example, Japanese banks have or are opening securities operations to deal in a limited range of instruments, permitted as long as they don't simultaneously engage in banking here. Sanwa Bank, Ltd. won permission from the Federal Reserve Board to underwrite and deal in commercial paper, municipal revenue bonds and asset-backed securities. Dai-Ichi Kangyo

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Bank, Ltd. expanded its presence in underwriting, dealing and brokering of U.S. Treasury bonds through a wholly owned subsidiary. Taking the most provocative step, however, was the Industrial Bank of Japan, Ltd. IBJ's European subsidiary, IBJ International Ltd., obtained a seat on the London stock exchange and announced plans to trade not only foreign equities but 10 Japanese stocks as well. The move revealed a split within MOF bureaus; its commercial banking unit approved the step, but the securities branch was not informed of the move in advance. After some internal talks and IBJ's pledge that its London subsidiary would not sell Japanese stocks to Japanese residents, MOF decided against any action. Nevertheless, the situation indicated the intense interest in breaching the banking/securities wall.

The Ministry of Finance, hoping to clarify the banking/securities regulatory environment for domestic and foreign firms, asked its advisory council to examine five options:

- A "universal" banking system like the one employed in most European markets. This approach allows a financial institution to compete directly in any and all areas.

- A holding company structure that would allow firms to create umbrella organizations whose subsidiaries would conduct banking and securities operations independent of each other. Trust and banking operations would be insulated from each other as separate corporate entities. This arrangement would protect the assets of one subsidiary from liability claims against another and would make it less likely that proprietary client information would be misused (as for insider trading, for example). This is similar to the current U.S. system.

- A wholly owned subsidiary system under which banks and securities firms would compete in the other's market through wholly owned operations. Unlike the previous option, the parent corporation could become entangled in the financial difficulties of its subsidiary. This is modeled after the Canadian deregulation of 1987.

- An investment bank subsidiary system that would allow banks and brokers to establish a wholly owned investment bank subsidiary offering commercial and investment services to large institutional clients only.

- Modest modifications to the existing system, such as very specific and limited channels for banks and securities companies to compete in each others' markets.

The expert panel ruled out the first and last options. Universal banking could lead to undesirable consequences, according to panel head Ryuichiro Tachi of Tokyo University. Large commercial banks with their extensive network of offices could dominate the brokerage business, he argued, while the government could face added liability if it guarantees savings deposits handled by securities companies. (Government guarantees currently apply only to deposits at banks.) At the other end of the spectrum, specifically modifying certain aspects of the current system is considered unrealistic given the recent activities of financial firms. As indicated earlier, Japanese banks and brokers are active in seeking or exploiting gray areas in the existing law. Professor Tachi is worried that if the erosion of the law by private firms is allowed to continue unchecked, Japan's financial markets could not only become disorderly but less transparent to foreign firms. If Tokyo is to become a global money center, he contends, the rules must be transparent to foreign and domestic firms alike and operate in line with global practices.

After further study a subcommittee of the council narrowed the options to just two. Rejecting the extremes of universal banking and the ad hoc approach, the subcommittee also dropped the holding company scheme, which would have required extensive changes in Japanese antimonopoly law, affecting all Japanese corporations rather than just the financial sector. The surviving proposals are: multiple, wholly owned subsidiaries and wholesale investment bank subsidiaries.

The first of the remaining proposals would spur competition in the full range of financial services. Those institutions with a network of national and international offices to service the retail as well as the wholesale market, such as the major commercial banks, would have a built-in advantage. This alternative, however, could lead to increased concentration of financial power, with implications for domestic and international competition. The second option would reduce the likelihood of this happening but also would provide less of a competitive jolt since not all institutions are likely to take the plunge into setting up investment bank subsidiaries. In particular, small firms, whether domestic or foreign, would be left out of the picture.

Both proposals create the potential for major conflicts of interest between the commercial and the investment banking arms of a single firm since they each could serve the same client. The financial chaos of the 1930s stemmed in part from banks loaning to clients they also served as underwriters. The Glass-Steagall Act resulted then. And now, as Japan's equivalent measure, Article 65, is moving toward change, this issue must be dealt with before the Japanese government can draw up implementing legislation. Securities firms are likely to fight the proposed changes any way they can. Compared with banks brokerage firms have fewer offices; they feel either proposal would put them at a competitive disadvantage.

The consensus for essentially eliminating Article 65, however, seems firmly entrenched. Diverse preparations are under way. Such groups as trust banks, long-term credit banks, small banks and even insurance companies, all are angling to preserve their interests. Some Japanese commercial banks already are dabbling in securities activities overseas, while Japanese brokerage houses have been involved in commercial banking in Europe for some time.

Distinctions remain, however. Taking their cue from the dismal stock trading results that some overanxious banks experienced in 1988 when Britain dropped its remaining barriers between the fields (the so-called Big Bang), Japanese banks and securities firms are likely to move cautiously whichever option is selected.

After receiving the subcommittee's report May 16 the full council forwarded its recommendations to the Ministry of Finance. The council by no means has the last word, however. Other advisory bodies, particularly ones dealing with securities and insurance, are drafting their own reform suggestions. The toughest battles may be fought within MOF itself between the banking and the securities bureaus. Whichever direction Tokyo finally moves, the changes probably will make Japan's financial institutions more flexible competitors instead of leading to a shakeout in the industry.

Trust banking - A Finance Ministry proposal would allow both banks and securities companies to establish investment bank subsidiaries able to deal specifically in the lucrative pension and trust markets. Although the subsidiaries would be restricted to handling the large accounts of corporations and institutional investors, they would be free to extend loans, settle portfolio accounts, trade foreign exchange, underwrite bonds and broker securities transactions. Major commercial banks have rejected the idea as "unrealistic" and called instead for a universal banking system. Securities companies also view the MOF proposal with some trepidation but see the universal banking concept as even riskier. MOF will continue to work on the idea, but it is unclear if it can satisfy all parties.

Bank categories - An advisory council recommended the elimination of the distinctions between sogo (mutual savings) and commercial banks as part of an overhaul of the domestic banking system (see JEI Report No. 46B, December 11, 1987). The first 55 sogo banks with capitalization of over Y1 billion ($7.1 million at Y140=$1.00) converted on February 1, 1989; another 10 followed on April 1. The remaining three sogo banks are in ill health, and it is unclear when or if they will revise their status. The change has spurred competition at the low-end of the market and increased merger and acquisition activities. The conversion also has increased the chances that an American bank will buy a Japanese institution. Citicorp is among those said to be holding active discussions with at least two former sogo banks.

Capital ratios - To put all banks involved in international transactions on more sound and equal footing, the Bank for International Settlements issued minimum requirements for capital-to-asset ratios in December 1987 (see JEI Report No. 47B, December 18, 1987). Under MOF's new rules to ensure compliance with the BIS guidelines all Japanese banks with international operations (35 institutions at present) must raise their overall capital-to-asset ratios to 7.25 percent by October 1, 1992 and then to the full BIS-mandated 8 percent by March 31, 1993. The impact of the BIS guidelines on Japanese banks is potentially very broad (see JEI Report No. 25B, July 1, 1988), and the first wave of effects already is apparent.

Japanese banks raised an estimated Y2 trillion ($14.3 billion) in new equity in FY 1988 through issues of convertible bonds or straight shares in Japan and Europe. This intense activity involves twice the amount of CBs and new shares floated in FY 1987 and has caused chaos in domestic and overseas CB markets. However, the need for capital may be so great that no option may be left idle. Under consideration, for example, is a plan allowing banks to switch to offering preferred stock, a recommendation by a MOF advisory panel. The American Bankers' Association predicts that Japan's top 31 banks will have to raise more than $400 billion in equity by 1992 if they restrain all asset growth. This amount rises to $500 billion if asset growth is allowed to go as high as 10 percent.

The Finance Ministry is doing its part to help banks meet the BIS standards by examining rule changes that would allow banks greater flexibility and increase their earnings potential. Restrictions on overseas holdings by Japanese banks were liberalized at the start of 1989, a beneficial move since foreign operations generally are more profitable than domestic activities. MOF also is considering letting the foreign subsidiaries of Japanese banks underwrite overseas issues by Japanese firms of foreign currency-denominated bonds.

Another plan calls for raising the maximum amount of reserves backing poorly performing Third World loans to 15 percent from 10 percent of the outstanding amount. While the main intent of this change is to encourage Japanese banks to take a more active role in financing Third World development, it also will have the effect of improving capital-to-asset ratios.

Japanese banks made solid progress in 1989 toward meeting the new capital guidelines, according to data from the American Bankers' Association. The data list Yasuda Trust & Banking Co., Ltd. as leading Japanese institutions with equity growth of 58.5 percent, followed by Mitsubishi Trust & Banking Co., Ltd. with 58.2 percent. Most other Japanese institutions posted growth of between 45 percent and 17 percent. This spectacular performance still leaves the Japanese banks short of their goal, however. The strongest Japanese bank, according to ABA, is Shizuoka Bank, Ltd. with an equity/asset ratio of 4.29 percent. Other Japanese institutions have ratios ranging from 3.3 percent to 0.57 percent (see Table 1). American competitors, in contrast, generally are better off by this measure, with most ratios in the 3 percent to 7 percent range.

Table 1: Equity-to-Asset Ratios of U.S. and Japanese Banks

(as of December 31, 1988)

Company	Equity/Asset Ratio
J.P. Morgan & Co.	6.99
Bankers Trust New York Corp.	6.63
Chemical Banking Corp.	5.95
Chase Manhattan Corp.	5.18
Manufacturers Hanover Trust Corp.	4.95
Citicorp	4.84
BankAmerica Corp.	4.44
American Express Co.	3.54
Shizuoka Bank, Ltd.	4.29
Industrial Bank of Japan, Ltd.	3.33
Fuji Bank, Ltd.	2.95
Long-Term Credit Bank of Japan, Ltd.	2.92
Dai-Ichi Kangyo Bank, Ltd.	2.83
Mitsubishi Bank, Ltd.	2.82
Tokai Bank, Ltd.	2.74
Sanwa Bank, Ltd.	2.67
Sumitomo Bank, Ltd.	2.66
Bank of Tokyo, Ltd.	2.64
Mitsui Bank, Ltd.	2.63
Mitsubishi Trust & Banking Corp.	2.44
Sumitomo Trust & Banking Co., Ltd.	2.39
Mitsui Trust & Banking Co., Ltd.	1.75
Norinchukin Bank	0.57

Source: American Banker

Maruyu savings accounts - Tax-exempt small savers accounts (maruyu) played an import role in helping Japan to rebuild after World War II. By the 1980s, however, the saving promotion had come under criticism from abroad. Washington urged Tokyo to cut incentives to save as part of a policy of macroeconomic coordination aimed at curing the huge bilateral current account imbalance. Tokyo complied April 1, 1988, sharply curtailing who was eligible to open a maruyu account and imposing a flat tax on all interest income.

In advance of the change savers immediately moved approximately Y3 trillion ($21.4 billion) out of the previously tax-exempt instruments in both February and March. For February 1988 commercial banks reported a Y2.5 trillion ($17.9 billion) jump in time deposits bearing market-determined interest rates while overall time deposits (the majority of which are maruyu accounts) grew just Y800 billion ($5.7 billion), indicating that savers kept funds in banks but moved them into different instruments. Banks reported a net decline of around 2 percent in time deposits for March and April, increasing concerns in boardrooms.

The Postal Savings system, administered by the Ministry of Posts and Telecommunications, reported net declines in deposits for both February (Y1 trillion or $7.1 billion) and March (Y900 billion or $6.4 billion). Postal officials counted on a new "national bond fixed-amount savings" account that is a combination of long-term government bonds and time deposits to boost deposits.

On the other side of the coin, trust banks, life insurance companies and securities firms attracted new customers thanks to the maruyu changes. Agents reported that monthly purchases of single premium endowment insurance, which pays about 9 percent a year, have doubled since February and show no sign of slowing. Seven trust banks recorded growth of five-year loan trusts, which pay about 4 percent annually, at 10 times the previous year's level. Approximately Y420 billion ($3 billion) flowed into this type of instrument in April, exceeding all expectations. Finally, securities firms reported an April increase of Y1.7 trillion ($12.1 billion) in investment trusts, marking the fourth consecutive monthly rise. Most of the April activity took place in stock trusts, with Y1.7 trillion ($12.1 billion) in new accounts opened and Y878.7 billion ($6.3 billion) redeemed. Bond trusts rose a net Y351 billion ($2.5 billion), the first net gain in three months.

One year after the maruyu reforms, the trends are clear. Overall bank time deposits continue to move up thanks to growth of large-lot time deposits and money market certificates, both of which pay a market-determined return. The share of these two instruments as a percentage of total deposits has risen from 33 percent in January 1988 to just under 50 percent in May 1989. The growth of total deposits in the Postal Savings system barely paused in May and April 1988 and fears that the rate of growth would suffer have proven unfounded. Insurance companies, trust bankers and stock brokers also report firm growth of their alternative investment vehicles. Japanese savers are clearly diversifying and rationally seeking higher returns for their funds. It does not appear, however, that curtailing the maruyu system has curbed Japan's thrift.

Interest rate deregulation - The increasing use of free-market mechanisms is a key element in Tokyo's financial liberalization plan. Open markets generate pressures for change as well as create opportunities for foreign competitors. MOF has worked steadily to dismantle the vast structure of regulated interest rates that greatly influences saving, borrowing and investment behavior. Institutional markets, such as the overnight call market, the bond repurchase market and other interbank markets, were the first to be freed beginning in the late 1970s. Deregulation of interest rates, the key to revolutionizing the entire retail financial market, was the next phase, and it affected both deposits and corporate loans.

- Deposits - Beginning with instruments such as large certificates of deposits, MOF allowed banks and other institutions to add large-lot time deposits and money market certificates to the family of instruments with open-market interest rates. MOF's procedure was conservative, allowing only large corporate investors to enjoy the benefits and risks first, then gradually bringing the new instruments within the reach of ordinary households. For example, certificates of deposit had a minimum denomination of Y100 million ($714,000) when first introduced, but now they can be in Y50 million ($357,000) units. Minimum denominations for large-lot time deposits fell from Y1 billion ($7.1 million) in 1985 to Y30 million ($214,000) in 1988. For small savers the minimum size of a money market certificate declined to Y10 million ($71,400) from an original Y50 million ($357,000). Before proceeding further with its plan to deregulate all interest rates paid on deposits, MOF encountered a major roadblock: MPT's Postal Savings system.

With more than Y30 trillion ($214.3 billion) in deposits and 23,000 outlets, the Postal Savings system is a formidable competitor. Moreover, the system offers a savings option that commercial banks cannot. Teigaku deposits yield a preferential rate of return with only minimal restrictions on withdrawal privileges and a maximum denomination of Y5 million ($35,700). MPT was unwilling to give up this advantage, while commercial banks insisted that any interest deregulation plan for savings must include reform of the postal system and teigaku deposits.

After months of talks, MOF and MPT achieved a compromise. As of June 5, commercial banks were allowed to offer money market certificates with a minimum denomination of just Y3 million ($21,400) and maturities of six months or one year. Maturities of three months, two and three years will be added in October. These Super MMCs should help commercial banks retain depositors lured away by equities, mutual funds and other instruments that earn higher returns. The Postal Savings system also began to offer the new MMC and a modified teigaku instrument (a fixed-term, high-interest deposit). With a Y7 million ($50,000) upper limit, the new teigaku will bear an interest rate between 3 percent and 80 percent of the rate paid on three-year MMCs. The rate on six-month Super MMCs is pegged at 1.25 percentage points below the CD rate, while that for one-year Super MMCs is set 0.75 percentage point lower. Interest rates will be adjusted monthly based on the average CD rate for the previous month. Compared with the 0.26 percent per annum return on regular bank savings accounts, the 1.68 percent that post office savings accounts earn and the 3.4 percent to 3.6 percent return on time deposit accounts, MMCs will offer a return of 3.75 percent to 4.5 percent. It is not surprising that an estimated Y427 billion ($3.1 billion) worth of Super MMCs and Y208 billion ($1.5 billion) worth of Post MMCs were sold on the first day.

Bankers already are adjusting activities to meet the added strain of offering market interest rates to more depositors. Major commercial banks are raising more of their funds from sources with freely determined interest rates so they can better match assets and liabilities under fluctuating interest rate conditions. Industry watchers expect banks to raise all their funds from free market sources within two years. Japanese banks previously raised money from sources with interest rates set by MOF or the Bank of Japan.

MOF has announced plans to continue cutting the minimum size of MMCs, beginning with a cut to Y1 million ($7,143) on April 1, 1990 and perhaps reaching as little as Y100,000 ($714) within a few years. Beginning this October MOF will give banks the green light to offer a hybrid instrument. Customers with ordinary deposit accounts can link them with a MMC and then borrow against the combination. This is somewhat similar to overdraft protection on checking accounts in the United States. Postal savings offices will offer their version of this new hybrid starting in April 1990.

- Corporate loans - Mitsubishi Bank, Ltd. took a revolutionary step this year by unpegging its short-term prime commercial loan rate from the Bank of Japan's discount rate. On January 23 Mitsubishi Bank raised its prime rate to 4.25 percent from 3.75 percent, subject to negotiation with its borrowers. The higher rate of interest should increase Mitsubishi Bank's profits, helping to boost its equity to meet the BIS requirements.

Commercial borrowers responded negatively to the rate hike for two reasons: they feel it is excessive, and it is unclear how Mitsubishi Bank set the rate. The current prime rate is 0.875 percentage point above BOJ's discount rate. Mitsubishi carefully avoided mentioning any rate-setting formula in its announcement, generating uncertainty among corporate clients. Japan's fourth-ranked bank previously had floated the idea of setting its prime rate 1 point above a four-instrument average (involving certificates of deposit, large-lot time deposits, discount bills and call money), but it withdrew the proposal under customer criticism. Other banks have followed Mitsubishi's lead to the chagrin of their customers. Mitsubishi's move will boost corporate interest in alternative financing, such as commercial paper or equity.

Securities -- A Rising Star

Japanese equity markets have been stellar performers since the October 1987 global stock market crash. The Tokyo market was the first to erase the October 1987 decline and has gone on to set new records with amazing frequency. Fears that the market was overvalued and headed for a major correction so far have proven to be overblown. With the current economic expansion nearing its third anniversary, the bulls are looking stronger than ever. With so much money flowing, it is not surprising that foreign financial institutions' interest in Japan's equity markets remains strong despite disappointing initial attempts to gain a foothold.

- TSE membership for foreign firms - After two waves of liberalization, foreign companies have 22 of 114 seats on the Tokyo Stock Exchange. The TSE board has decided that there is room for still more new members, foreign and domestic, and is examining which firms are both interested and qualified to join. While American firms benefited the most from previous membership drives, British and domestic firms are expected to gain more seats the next time around. The TSE hopes to have the groundwork laid by the summer of 1990.

FY 1988 was not the best of years for the TSE's foreign members. Only 8 of the 22 managed to break even or make money. This was, however, an improvement over the previous year when only five avoided recording red ink. The experience has led some to pull back or redirect their marketing efforts toward traditional areas of strength. Others, including Salomon Brothers (Asia) Ltd., Morgan Stanley Group Inc. and Goldman Sachs International Corp., have managed to build up a sufficient client base to generate enough trading volume to survive (commissions are fixed in Japan; in the United States variable rates are the rule, making volume not quite so critical). Most firms showing losses, however, profess a willingness to persist. Tokyo's market is now so large and active that a presence is almost mandatory for global competitors.

- Insider trading - Beginning in mid-1987 a series of scandals involving questionable stock transactions focused Japanese attention on the structure of domestic financial institutions and trading practices. In one case several Japanese banks and brokers avoided losses by acting on inside information that Tateho Chemical Industries Co., Ltd. was on the verge of bankruptcy because of huge losses from unauthorized trading in the yen bond futures market. In another, Recruit Cosmos Co., Ltd. privately placed its stock with 76 investors, including top political leaders' aides, who then made large profits when the company went public. Although the transactions occurred in 1984 and 1986, details of both only became public in mid-1988, igniting a major political scandal. In a third case, the price of Sankyo Seiki Manufacturing Co., Ltd. shares rose dramatically immediately before its July 29, 1988 announcement of a tie-up with Nippon Steel Corp. The less-than-severe penalties imposed on a handful of company officials raised eyebrows.

Although tougher Ministry of Finance securities rules approved by the Diet in May 1988 were to have gone into effect April 1, 1989, the rash of cases prompted MOF to implement parts of the legislation sooner. The ministry received stronger surveillance powers effective August 23 (Article 154 of the Securities and Exchange Law) and put in place more explicit rules governing insider trading (Articles 188 and 189) October 1. Lastly, the criminal provisions relating to insider trading were implemented April 1, 1989.

After consultations with brokers, MOF issued guidelines for the pricing of new stock issues and for private placement of shares. The effect of the rules is to prevent unrealistic prices for new issues, dampen efforts by traders to manipulate the price of new issues, and prevent heavy discounting of share prices for private placements. MOF also has set strict rules on the release of information that may affect share prices. Firms must provide any "nonpublic" information simultaneously to stock market officials and to at least one major media organization and then wait 12 hours before trading their own stock based on that information. Any trading before the 12 hours elapse constitutes insider trading.

The Japan Securities Dealers Association also took steps to restore confidence in the over-the-counter market, which was damaged by the Recruit Cosmos scandal. The JSDA board extended to three years a one-year ban on transfers of a stock between the time it is registered and it is listed. Registration procedures were strengthened, and the reporting of all transactions of unlisted stocks is now required. The Tokyo Stock Exchange and other bourses also are taking steps to prevent their employees from engaging in insider transactions.

The biggest changes, however, occurred within securities companies. Nomura Securities Co., Ltd. announced July 1, 1988 that it was separating its corporate finance and trading departments -- building a "Chinese Wall" to prevent inside information from passing between the two. All major brokers and many large corporations followed Nomura's example by physically separating the two staffs and establishing rules preventing financial communications between them.

The maintenance of Chinese Walls is standard practice in American and European financial institutions, where conflict of interest rules are much clearer. The step is unprecedented for Japan, where the concentration of economic and financial power has reached levels that would be considered unacceptable in the West. It has been an unspoken rule in Japan that the brokerage house that wins the right to underwrite a new corporate stock issue will do everything possible to inflate the price of that issue to make it successful. With Chinese Walls in place, however, this becomes more difficult. Foreign competitors in particular have complained that the existing unified structure gives Japanese firms an unfair advantage and actually promotes insider trading.

Many observers are pessimistic about the effectiveness of the new rules. First, the investigation and the enforcement arms of MOF, JSDA and the stock exchanges are small in comparison to the volume of trading. While the U.S. Securities and Exchange Commission has over 800 investigators with strong investigative powers, MOF's securities bureau has less than 200 and generally relies on cooperation with private firms. The volume on the Tokyo floor can exceed 1 billion shares a day, while the TSE's surveillance staff numbers just 31. JSDA is even shorter-handed; six persons monitor the entire Japanese over-the-counter market. Both the rules and mild penalties (a maximum fine of Y500,000 ($3,571) and six months in jail) are coming under increasing fire. MOF counters that the rules are meant to be preventive, rather than punitive. Give the system a chance before passing judgment, the ministry urges. But some analysts argue that even a thoroughly safeguarded system will not eliminate the problem, which will require a more fundamental shift to address the root cause. The highly concentrated nature of Japanese industry and finance puts too much power in too few hands, making abuse endemic, they say. Their advice: A complete restructuring of the industry may be the only solution.

- NTT shares - Seven foreign securities firms won the right to join the underwriting syndicate for the third issue of government-held shares of Nippon Telegraph and Telephone Corp. Although foreigners are not allowed to own NTT stock, foreign brokers placed over 87,000 shares of the 1987 offering in the secondary market, with seven accounting for 10,000 shares each. Five American subsidiaries -- Merrill Lynch Japan Co., Salomon Brothers, Goldman Sachs, Morgan Stanley International Ltd. and First Boston Securities Ltd. -- and two British brokers -- Kleinwort Benson & Co. and S.G. Warburg & Co. -- joined 26 Japanese firms as primary underwriters.

MOF and the Ministry of Posts and Telecommunications (which nominally owns the government's shares of NTT) now are negotiating on whether to allow foreigners to buy NTT shares in this year's auction, tentatively planned for October. In view of the 50 percent fall in the price of NTT shares since 1987, MOF favors foreign buyer participation to stimulate the market price (MOF is counting on the sale to bring in at least Y1.3 trillion ($9.3 billion) to help with its budget planning). MPT justifies its no-foreign owner policy on national security grounds. MOF counters, however, by pointing out that foreigners can buy stock in both American Telephone and Telegraph Co. and British Telecom Plc as long as they remain minority shareholders. If Japan does not allow some foreign ownership of the "privatized" NTT, it could become a point of friction with trading partners.

Banker's acceptance market - As part of the 1984 yen-dollar accord between Washington and Tokyo, the Ministry of Finance created a domestic market for yen-denominated banker's acceptance bills. The purpose of the market was twofold: to facilitate imports by converting shippers' receivables into cash more quickly and to promote the use of the yen in international trade. The instrument, introduced in June 1985, initially was a success, with the volume of BAs quickly reaching Y58.7 billion ($419.3 million). Since then, however, the market has shriveled to the point where most analysts predict it will disappear in the near future. The outstanding BA market balance at the end of this June was just Y700 million ($5 million).

Paradoxically, the success of Tokyo's financial liberalization program is bringing the demise of the BA market. Rather than sell their trade bills to banks at a discount, exporters and importers now can borrow directly from banks at the prime rate, which is less costly than the trade bill discount.

Commercial paper market - In contrast to the BA experience, Japan's experiment with a commercial paper market is roaring ahead. Since the November 1987 inauguration of the market, the number of participants that can issue commercial paper, which is a promise to pay based solely on the company's good name, has grown from an initial 178 to over 200. The outstanding balance of the CP market topped Y11 trillion ($78.6 billion) at the end of this July, a gain of Y930 billion ($6.6 billion) for that month alone.

Japanese corporations have grown more sophisticated in the use of the CP market. At first the major participants were mainly large Japanese trading companies that issued CP for trade finance and investment purposes (another reason why the BA market has faded). Today, however, a wide range of corporations use the CP market not only for fund-raising but for financial speculation as well. For example, many corporate money managers recently have taken advantage of a gap between the cost of borrowing funds on the CP market (under 5.5 percent) and the interest earned on large-lot time deposits paid by banks (5.6 percent) by issuing CP and then depositing the funds in a large time deposit account.

MOF is considering further improvements to the market, including allowing maturities of less than one year, reducing the minimum issue amount to Y10 million ($71,400) from Y100 million ($714,000), eliminating the need for a company to be rated each time it wants to issue CP and allowing CP futures to be traded. MOF also probably will drop the 0.1 percent stamp tax now imposed on every CP transaction. The Japanese CP market is likely to grow as domestic companies become more familiar with it and Japanese subsidiaries of foreign firms become eligible to enter the market.

Offshore Banking - The Finance Ministry dropped several controls April 1 on the flow of funds between domestic accounts and the two-year-old offshore market, the Tokyo International Banking Facility. From now on, foreign investment funds held in domestic bank accounts worth up to 10 percent of the previous month's offshore account balance can be moved to offshore accounts each month. Accounts of less than Y1 billion ($7.1 million) can shift the entire sum between onshore and offshore accounts each month. All controls on the outflow of offshore funds have been dropped. The changes more than double the amount of funds that can be moved monthly in and out of offshore accounts. Outstanding deposits in the Tokyo IBF totaled over Y414 billion ($3 billion) at the end of 1988 (see JEI Report No. 14A, April 7, 1989).

Euroyen market - European money markets have earned a just reputation for being the most open and free in the world. As such, they have been both a valuable training ground for Japanese financial institutions and an increasingly important source of funds and profits for Japanese corporations.

The Euroyen bond market now accounts for about 10 percent of the total Eurobond market, just ahead of the Deutsch Mark-denominated bond market but well behind the Eurodollar bond market's 55 percent share. Not surprisingly Japanese firms are very active in all Euromarkets. In the Euromarket for dollar-denominated warrant bonds, Japanese firms floated 175 issues worth $20.1 billion in 1987 and 196 issues worth $26.7 billion in 1988. The pace for the first half of this year is even more torrid, reaching 122 flotations worth $39.5 billion, according to a major Japanese broker. As for Euroyen bonds, another trader estimates that just over Y1.9 trillion ($13.6 billion) worth were floated in 1988. In both markets Japanese brokers have taken over completely as lead managers. Japanese issuers accounted for more than half of all Euroyen issues and at least one-third of all Eurodollar issues; they feel that the Big Four Japanese securities houses will be in a better position to handle the surge of trading that will occur in Japan when the warrants are exercised. Foreign firms, however, have found a profitable niche as comanagers. In fact, American and European firms have generated greater bond volume than the Japanese companies by focusing on comanagement.

Even Japanese banks are trying their hand at underwriting Eurobonds. European subsidiaries of the Industrial Bank of Japan, the Long-term Credit Bank of Japan, Ltd., Mitsubishi Bank and the Bank of Tokyo, Ltd. all rank within the top 30 Eurobond managers. Japanese banks are handicapped, however, by an informal Finance Ministry guidance that ensures that a Japanese bank will always have a subordinate status to a Japanese securities firm when they both participate in a Eurobond issue.

Domestic bond market - The once-slumbering domestic bond market, insulated from foreign financial forces, has a new day ahead. Gone are the rules and requirements that made corporate bonds an unattractive option compared with bank loans. The orderly government bond market now incorporates an open auction system not previously used for flotations. These vast changes stem primarily from an expansion of the national debt (currently over 40 percent of gross national product) and liberalization of bond rules and regulations.

- Private bonds - In a continuing effort to make Japanese markets competitive with those overseas, MOF eased regulations governing the domestic market for bonds tied to stock-purchase rights. Hoping to bring some of the Euromarket business back home, MOF decided April 1, 1989 to allow domestic underwriters to separate the warrant (the right to purchase new stock at a set price within a fixed period) from its underlying bond, a practice allowed in Europe and the United States. Brokers now can meet the varied needs of different clients by offering the warrant, which attracts small investors interested in the stock market, separately from the bond, which large institutional investors consider advantageous to hold.

Daiei Inc., a major supermarket chain, was the first to take advantage of the changes. Response to its June 29 issue of Y40 billion ($285.7 million) worth of warrant bonds was greater than expected but not overwhelming. The Big Four securities firms are expected to dominate any domestic business that does develop, although many Japanese brokers have diverted manpower to this area. Foreign firms expect to make small gains from this field; four U.S. firms participated in the Daiei offering to the tune of just 0.65 percent.

The infant bond repurchase market, which opened in April, is having teething troubles. In this market an institutional bond owner loans bonds to another financial institution in exchange for a fee with the understanding that the bonds will be returned by a specific date. Pension, trust and insurance firms can generate immediate income from their bond portfolios, while bond dealers have greater flexibility to play the market short or cover their positions. Unlike the existing gensaki bond repurchase market, the borrower can specify exactly what bonds he wants to borrow. Just as important, the new bond repurchase instrument is not subject to a transaction tax as gensaki deals are. The new market has not fulfilled expectations, dealers say, because of several rules that favor the bond lender.

- Government bonds - Washington's interest in ensuring equivalent access for U.S. firms to Japan's primary government bond market has grown along with the increasingly key role of Japanese investors in the initial market for U.S. government securities. The Treasury Department's May 1988 quarterly offering revealed the strong financial links that have sprung up between the two countries and explains why some in the United States are concerned that control of monetary policy is becoming unduly influenced by foreign considerations.

At least partly in response to reports that Japanese fund managers were unenthusiastic about the bond sale's prospects, Treasury postponed the $26 billion quarterly auction to avoid a three-day Japanese holiday at the start of May. In addition, reports of unexpectedly strong U.S. economic activity had raised fears of an overheating economy and higher interest rates. Managers were worried that the yield on 30-year bonds would jump as high as 9.25 percent compared with the coupon value of 8.875 percent. Worries over the yen-dollar exchange rate also plagued Japanese managers. Underlying the Americans' immediate concern was a fear that this situation could create a vicious cycle since less Japanese investment in U.S. bonds would reduce demand for dollars, pushing the dollar's exchange rate down and making dollar-denominated instruments even less attractive.

In the end, however, there was no visible reduction in Japan's participation. Japanese bidders won an estimated 20 percent of the $8.75 billion worth of three-year treasury notes, carrying an average yield of 8.23 percent. Treasury officials reported that the bid-to-cover ratio (the value of bids made divided by the amount accepted) was 2.95 which compared favorably with the last auction's 2.43 ratio. As for the $8.75 billion worth of 10-year notes auctioned the next day, Japanese investors bid successfully for 35-40 percent. The average yield on the notes was 9.06 percent, a slim margin given the 9 percent coupon. In this case the bid-to-cover ratio was also higher than before, coming in at 2.61 versus 2.04. About half of the final day's auction of $8.5 billion worth of 30-year bonds went to Japanese bidders, who pushed up the bid-to-cover ratio to 2.55, well above the previous 1.98 mark. Yields ranged from 9.16 to 9.18 percent, with the average 9.17 percent level the highest average yield since early 1986.

On the one hand, Washington was happy with the results since it helped stabilize interest and exchange rates and kept the U.S. economy growing. On the other hand, Japanese purchases of at least 34.8 percent and at most 36.5 percent of the May auction drew inevitable comparisons with foreign access to Japan's primary government bond market. Under the postwar system, the terms of each Japanese bond issue are negotiated between the government and the executive committee of an 815-member syndicate, with each member receiving a fixed share. In the past the 34 foreign securities brokers and 30 foreign banks in the syndicate were allocated just 2.5 percent of each issue. This disequilibrium gave rise to a provision in the Omnibus Trade and Competitiveness Act of 1988 that would bar foreign companies from the U.S. primary market unless American firms have access to "the same competitive opportunities in the underwriting and distribution of government debt instruments issued by that country as it accords to domestic companies."

The primary dealers provision contained in the 1988 trade law claims that "in contrast to the barriers faced by U.S. firms in Japan, Japanese firms generally have enjoyed access to U.S. financial markets on the same terms as American companies." The statute lists the following "barriers" for foreign firms in Japan: limitation on membership on the Tokyo Stock Exchange; high fixed commission rates (up to 80 percent), which must be paid by nonmembers of the TSE to members for executing trades; unequal opportunities to act as lead manager for, or even participate in, equity and bond underwritings; restrictions on access to automated teller machines; arbitrarily applied employment requirements for opening branch offices; long delays in processing applications for operating licenses; and restrictions on foreign-owned institutions' participation in Ministry of Finance policy advisory councils. The law specified that if these conditions were to continue after August 23, 1989, "neither the Board of Governors of the Federal Reserve System nor the Federal Reserve Bank of New York may designate, or permit the continuation of any prior designation of, any person of a foreign country as a primary dealer in government debt instruments."

A team of Fed officials visited Tokyo January 24-31 to meet with representatives of the Finance Ministry, the Bank of Japan and major commercial banks and brokerages. The American team reportedly focused keenly on at least one aspect of the Japanese system. Japan Bond Trading Co., Ltd., which serves as a clearinghouse for trading between bond brokers, has been accused in the past of favoring domestic dealers by selectively leaking information. Foreign dealers in Japan and some Japanese institutions have voiced unofficial complaints about the practice. A spokesman for Japan Bond Trading denied that any leaks occurred and pointed out that new computer software and ethics codes have been instituted to make leaks more difficult.

In October 1988, well under the one-year deadline imposed by the trade act, MOF raised the bond syndicate allocation for foreigners to 8 percent from 2.5 percent. Four foreign firms also were invited to join six Japanese companies on the syndicate's executive committee to negotiate directly with MOF on future offerings. Salomon Brothers Asia became a permanent executive committee member, with the three remaining posts being filled the first year by Goldman Sachs, Shearson Lehman Hutton Inc., and Kleinwort Benson. The second year appointees are Merrill Lynch, Morgan Stanley and Jardine Fleming Securities Ltd., and in the third year Citicorp Scrimgeour Vickers International Ltd., First Boston and S.G. Warburg will have seats. Most important, MOF increased April 1, 1989 the portion of each auctioned offering of 10-year notes from 20 percent to 40 percent. The terms of the remaining 60 percent of the issue are set at the average of the competitive bids. Finance allows firms with an allocation of less than 0.3 percent to participate in a noncompetitive bidding system to ensure that these companies also gain a larger share.

The first flotation held under the new system surpassed MOF expectations. The April 5, 1989 auction of Y400 billion ($2.9 billion) worth of 10-year bonds, 40 percent of April's total issue, brought an average price on the 4.8 percent coupon issue of Y99.91 per Y100 of face value, a surprising Y1.2 above the price of the March issue. MOF reported that it had received bids worth Y2.9 trillion ($14.9 billion) and accepted Y389.9 billion ($2.8 billion).

Strong competition from foreign bidders, according to market analysts, drove the price well above the expected Y99.5 level. There were four American brokerages among the successful bidders: Salomon Brothers won Y20 billion ($142.9 million), First Boston received Y15 billion ($107.1 million), and both Goldman Sachs and Shearson Lehman Hutton bought Y2.4 billion ($17.1 million). The American share of the auctioned bonds alone thus reached about 10 percent.

The new system apparently placated the Federal Reserve, at least for the moment. The Fed governors August 21 approved a staff report by a vote of 5 to 1 that found no "discrimination against U.S. firms in the laws and formal regulations applicable to the government debt market." While praising Tokyo for the changes, the report also listed several concerns that still exist, including greater market efficiency, improvement and control of information flows, and continued sensitivity to foreign concerns in the liberalization process. Several Fed governors who voted in favor of the report expressed the hope that Tokyo would continue to improve foreign access to its government bond market. If not, they warned, this decision could be revisited as early as next August.

The Fed's positive but wary attitude did little to calm mixed American feelings about the decision. Some feel that Tokyo gave up little to gain completely open access to the U.S. bond market. Others feel that the decision removes pressure from Tokyo to continue liberalizing its market. Tokyo has not yet responded to the Fed decision but remains aware of being watched closely.

Financial futures and options - Although commodities futures have a long history in Japan, financial futures are a recent innovation. Trading in government bond futures started in 1985 to facilitate Tokyo's debt rollover operations. In June 1987 the Osaka Stock Exchange introduced a quasi-stock futures instrument, the Osaka 50, which has proved moderately successful. Two true stock futures began trading September 3, 1988. One, based on the Tokyo Stock Price Index (Topix) of 1,117 first-section issues, is traded on the Tokyo Stock Exchange; the other follows the 225-stock Nikkei Average and is traded on the Osaka floor. The two contracts allow investors the full range of futures activities: hedging, arbitrage between futures and spot prices, and arbitrage between the two futures themselves. Learning from the U.S. "Black Monday" experience of October 1987, the new markets have a 3 percent daily limit on movement up or down. The contracts can be settled in cash only (no delivery of stock), a rejection of a reform proposed for the U.S. market.

Trading of stock futures outperformed all expectations as the volume of futures trading quickly matched the underlying real market. It is clear that the market is still immature, however. Japanese investors are experimenting timidly with the new instrument, concentrating on futures with the shortest terms and changing positions often. Securities firms have done the bulk of trading, mostly on arbitrage activities. Even here, however, the approach is rather basic, focusing on the spread between the real and the futures market. Trading based on differences between the two futures indices (the Topix and the Nikkei 225) or between domestic and overseas indices (particularly the Nikkei Index traded on the Singapore International Monetary Exchange) is miniscule. Given its sound start, however, refinement and sophistication will surely come.

Banks began trading government bond futures June 5 for their clients. Previously banks were allowed to trade only for their own accounts, while their clients had to engage a securities broker to take advantage of this instrument. A total of 82 banks, including four foreign ones, initially qualified to begin operations.

In November 1988 the Finance Ministry allowed domestic firms to trade for their own accounts in foreign financial futures offered on the Chicago Board of Trade, the Chicago Mercantile Exchange, the London International Financial Futures Market and the Singapore International Monetary Exchange. The foreign experience was a prelude to the June 30 opening of the Tokyo International Financial Futures Exchange, which offers Euroyen interest rate futures, Eurodollar interest rate futures and yen/dollar exchange rate futures.

After an initial flurry of congratulatory opening day trading, TIFFE volume plunged and became focused on Euroyen trading (see Table 2). Traders explain that they prefer the Singapore exchange for Eurodollar futures because of its ties with the Chicago Mercantile Exchange. The tie-up not only expands the number of trading hours each day but offers greater liquidity and depth. As for yen/dollar futures, dealers say that TIFFE is superfluous. The existing Tokyo interbank foreign exchange market can accommodate huge transactions (lessening the need to hedge with futures) and does not impose a 9 percent margin deposit as TIFFE does. TIFFE's manual trading system also draws traders' complaints for being too slow, especially when a delay of only a few minutes in confirming a transaction can mean the difference between profit and loss.

Table 2: Weekly Volume of the Tokyo International Financial Futures Exchange

(number of lots)

Week Ending	Euroyen Interest Rate	Eurodollar Interest Rate	Yen/Dollar Exchange Rate
June 30, 1989*	141,625	29,413	4,125
July 7	93,219	8,849	1,052
July 14	73,728	7.835	256
July 21	73,269	[illegible]88	240
July 28	118,544	[illegible]55	503
August 4	82,856	3,189	470
August 11	88,760	2,996	528
August 18	92,102	2,981	497

*First day of trading only

Source: Nihon Keizai Shimbun

TIFFE officials nonetheless are pleased with the results so far, saying that the current average daily volume of just over 40,000 lots surpasses the 30,000-lot expectation. TIFFE is examining whether to install a computerized trading system to meet speed and volume demands. Officials also have widened the bidding range on yen/dollar futures from 7 points to 15 points to encourage more participation as well as take into account more volatile spot exchange rates (one point is $0.000001). Most observers predict that only the Euroyen instrument will prove viable, since it is unique to the exchange.

Japan's first true stock index option was made available to institutional investors June 12, 1989. As it did with stock futures, the Osaka Stock Exchange gained the jump on its Tokyo rival by offering a true index option based on the Nikkei 225 index. TSE hopes to offer a competing product based on the broader Topix index this fall. The third-ranked Nagoya Stock Exchange will offer a third option contract, based on a 25-stock index of its own creation. While index options are used widely in the United States as a way for large investors to hedge their bets in the underlying cash market, it is not clear if the instrument will be as popular in Japan. Investors must deposit Y20 million ($142,900) with a broker before being allowed to dabble, and brokers are complaining that the commissions have been set too low to really interest them. In addition, the options are traded manually rather than by computer, severely restricting trading activity. Ministrv of Finance efforts to actively involve foreign firms in the new market also have not lived up to expectations. Of the 90 clearing members on the new exchange, only four are based overseas. Until foreign brokers develop a domestic client base, observers feel that non-Japanese participation in the options market will be limited.

Japan's commodity futures markets are the next target of Tokyo's liberalization efforts. Under current rules Japan's commodity markets are unattractive compared with foreign counterparts. Trading in metals futures, for example, is restricted to gold, silver or platinum. In addition, foreign firms have been barred from being full members of commodity exchanges. As a first step toward liberalized markets, 24 foreign firms were invited March 10, 1989 to join the Tokyo Commodity Exchange for Industry as associate members; full membership almost surely will follow when regulations permit. To alleviate problems associated with the actual delivery of metals (Japanese firms have complained of losses from price fluctuations while the goods were in transit), the top-ranked London Metal Exchange plans to open metals warehouses in Tokyo, Osaka and Nagoya. TCEI will link its trading operations with its U.S. and European counterparts in September 1990 and hopes to offer precious metals options in 1991.

Unlike most of the other financial liberalization, which falls in MOF's domain, commodity markets come under the primary control of the Ministry of International Trade and Industry, which plans changes to the existing Commodity Exchange Act that would allow foreign firms to become full members of any exchange and the introduction of trading in commodities options and futures. MITI also is considering introducing trade in crude oil futures within five years and opening a nonferrous metals exchange. The Ministry of Agriculture, Forestry and Fisheries also has a role in commodity market liberalization: preparing for trading in agricultural futures. Liberalizing commodity markets is likely to take some time since a variety of ministries must rewrite a vast number of laws and regulations.

Japan as King of the Hill

Japan and the United States are highly status conscious societies. The rapid growth of Japan's financial might has upset international rankings of financial institutions long dominated by American firms. But beyond their public relations or ego value, what are the practical implications of this rank reordering?

Japanese banks now dominate the international rankings according to the traditional measures of deposits and assets (see Table 3). Aided by the sharp appreciation of the yen against most major currencies but particularly the dollar, Japanese banks are now head-and-shoulders above the competition by these often-used measures. By two other measures, however, the Japanese banks seem less formidable. As mentioned earlier, Japanese banks fair poorly when judged by their equity-to-asset ratios. Profit rankings, too, make Japanese banks seem less imposing.

Table 3: Deposits, Assets and Profits of Selected Japanese and American Banks

(in millions of dollars)

Company	Deposits	Assets	Profits
Dai-Ichi Kangyo Bank, Ltd.	$312,465.8 (1)	$386,937.3 (1)	$1,061
Sumitomo Bank, Ltd.	296,000.8 (2)	376,087.8 (2)	992
Fuji Bank, Ltd.	283,585.4 (3)	364,043.9 (3)	873
Mitsubishi Bank, Ltd.	269,427.0 (4)	343,593.5 (5)	845
Sanwa Bank, Ltd.	269,032.3 (5)	348,358.0 (4)	866
Industrial Bank of Japan, Ltd.	215,397.6 (6)	257,577.9 (6)	456
Norinchukin Bank	210,759.5 (7)	241,947.3 (7)	n.a.
Mitsubishi Trust & Banking Corp.	185,955.5 (8)	210,456.8 (10)	542
Sumitomo Trust & Banking Co., Ltd.	177,932.2 (9)	196,588.7 (12)	514
Tokai Bank, Ltd.	175,600.9 (10)	225,121.1 (8)	464
Citibank NA	104,996.0 (27)	146,177.0 (24)	1,698.0
Bank of America NT&SA	69,640.0 (44)	81,651.0 (48)	547.0
Chase Manhattan Bank NA	58,241.3 (55)	74,990.9 (53)	1,058.9
Morgan Guaranty Trust Co.	45,471.7 (70)	70,064.8 (59)	1,001.8
Manufacturers Hanover Trust Co.	42,876.0 (75)	52,849.0 (78)	752.0
Security Pacific National Bank	36,095.3 (84)	48,358.1 (82)	638.9
Wells Fargo Bank NA	35,109.1 (88)	43,487.1 (89)	512.5
Chemical Bank	33,298.0 (95)	50,233.0 (81)	753.6
Bankers Trust Co.	33,261.4 (96)	52,340.0 (79)	647.7

Notes: Number in parentheses is rank among the top 500 banks worldwide, according to the American Banker. Figures list deposits and assets as of December 31, 1988. Profit figures are for latest fiscal year available.

Sources: For deposits and assets, American Banker. For profits, Business Week and Fortune.

Interestingly, the Japanese and Americans switch positions when leading securities brokers are compared (see Table 4). The American companies look strong in terms of revenues and assets, but the Japanese firms earn substantially higher profits, which translate into greater cash reserves. The opposite fortunes of the Tokyo and the New York stock exchanges since October 1987 may account for much of the disparity in profit levels. While the TSE has enjoyed a steady boom, the NYSE has struggled upward until its recent surge. The cause of Nomura's stunning profit performance is unclear, but the figures are consistent with a surge that began in 1987.

Table 4: Revenues, Assets and Profits of Selected Japanese and American Financial Service Companies

(in millions of dollars)

Company	Revenue	Assets	Profits
Nomura Securities Co., Ltd.	$6,677.1	$29,368.0	$1,494
Daiwa Securities Co., Ltd.	4,155.5	32,936.0	831
Nikko Securities Co., Ltd.	3,588.6	23,189.0	552
Yamaichi Securities Co., Ltd.	3,401.7	23,042.0	552
Salomon Brothers Inc.	6,146.0	85,256.0	280
Merrill Lynch & Co.	10,547.2	64,402.7	463
Morgan Stanley Group Inc.	4,108.8	40,050.8	395
Shearson Lehman Hutton Inc.	10,529.0	84,800.0	97

Notes: Figures for revenue and assets as of December 31, 1988. Profit figures are for the latest fiscal year available.

Source: Morgan Stanley Capital International

For various reasons, a growing faction in the international financial community believes bigger is not necessarily best. Because deregulation of capital markets has integrated national financial markets to an unprecedented extent and off-budget accounting has become prevalent, an institution's operations and its profitability are no longer reflected adequately by total deposits and assets. While deep pockets often are necessary to finance today's global transactions and can help attract top talent, they do not necessarily guarantee sophistication and experience. Japanese banks are probably the clearest example. There is no doubt that they have the funds to become major players in the U.S. merger and acquisition market, but their lack of expertise is equally evident. The same can be said for Japanese brokers on Wall Street. Despite a lot of money to deal, they have little experience working the market.

The Japanese understand their weaknesses and are striving to use their current assets to the best advantage. By bankrolling foreign firms with desirable expertise the Japanese are beginning the long learning process that will make them stronger competitors.

The European Challenge

While Japanese financial firms have built a strong presence in Europe, the Euromarket is scheduled to undergo a revolution in a few years. The 13-nation European Community is rapidly moving toward becoming a more complete economic union beginning in 1992. For the continent's financial markets, however, the impact of the 1992 integration will come sooner. Each community member has agreed to eliminate its residual controls on intra-EC capital flows, eliminate regulatory barriers to cross-border financial service transactions and fully support the European Monetary System by July 1, 1990.

The proposed 1990 changes have added even greater urgency to the Japanese rush to prepare for Europe 1992. Just as Japanese manufacturers are setting up production facilities within the EC, Japanese financial firms are cementing their European ties to avoid being shut out by proposed financial reciprocity rules. Although stressing that a pending directive for banking and other financial services will not be protectionist, EC officials have made it quite clear that they intend to use access to a unified community as a tool to lever equal access abroad for European firms. Concern about the final directive in Tokyo is proportional to reports that the EC has compiled a long list of complaints against Japan and other countries. Both at the government and the private level, therefore, European-based Japanese firms are trying to present their case as convincingly as possible.

While most major Japanese financial companies have established offices in many EC countries, second-tier and smaller Japanese firms only now are seriously exploring opening European operations. One approach receiving greater consideration by both manufacturing and financial companies is the purchase of an existing European company. American brokers already are involved deeply in M&A activities in Europe. Accordingly, the EC Commission has announced that it wants to centralize approval authority for foreign acquisitions within the EC bureaucracy. While the EC claims this will facilitate foreign investment by providing "one-stop shopping," others see a more sinister intent. Whether member governments will be willing to give up this authority is a very open question.

The EC's planned 1992 integration presents a whole range of new challenges to Japanese financial institutions, not the least of which will be tougher competition from European firms strengthened by cross-border mergers. After some initial panic Japanese firms are settling down to adapt themselves to the changing business environment.

What's On Washington's Mind

It should be clear that in the financial area Tokyo has moved, if grudgingly at times, in directions urged by Washington. If one reviews the provisions of the 1984 yen-dollar accord, Japan has achieved almost all of its stated goals. Nevertheless, many Americans and Japanese agree that Japan's financial markets could benefit from further reform and liberalization. This does not mean that Japan's financial markets must evolve into carbon copies of U.S. markets. Herein lies the potential for continued financial frictions. Tokyo and Washington are scheduled to launch talks on structural impediments to trade in early September. Among other things the Bush administration wants to address two financial issues with Japan.

- Japanese patterns of saving and investment - The United States remains convinced that Japan saves too much and consumes too little. This savings-consumption imbalance contributes to the country's strong export performance and is therefore fair game for discussion. Since Tokyo already has effectively eliminated the tax-exempt small savings account system, it is not clear what Washington wants. The Japanese consumer finance industry has grown by leaps and bounds over the past few years. Credit cards, charge cards, debit cards and prepaid cards all are accepted by Japanese consumers as necessities of life. Japanese banks now are putting greater emphasis on consumer loans because of their higher profitability. Unless Washington expects Tokyo to implement penalties for thrifty behavior, Tokyo can do little more to directly influence the behavior of Japanese savers.

- Stock cross-holding by Japanese companies - The practice where business partners hold a small stake in each other's company as a sign of sincerity has become deeply rooted in Japan. Families of companies in which a substantial portion of each member's shares is held by the rest of the group are highly visible features on the Japanese economic landscape. Some of these keiretsu or industrial groups are descendants of pre-war conglomerates (zaibatsu), such as Mitsubishi Corp., Mitsui & Co., Ltd. and Sumitomo Corp. These conglomerates were dismantled during the U.S. occupation of Japan but managed to reassemble themselves to some degree after the occupation ended. Other groups, such as the Fuyo, Dai-Ichi Kangyo Bank and Sanwa groups, formed after the war by clustering around a single bank in response to the extreme shortage of capital. Still others formed around a major manufacturer and usually consist of all the subcontractors that supply the central firm; the Matasushita Electric Industrial Co., Ltd. and Toyota Motor Corp. families of companies are good examples of this last type of keiretsu.

One side effect of this type of organization is that a significant portion of a company's stock is often held by companies that have no interest in selling or trading the shares. Combined with institutional investors that take a long-term view toward buying and holding stocks, as much as 70 percent to 80 percent of a company's shares may be withheld from the market. For any investor wishing to accumulate a sizable stake in a Japanese firm, these stock holding practices can become an impenetrable barrier. This situation is in total contrast to the U.S. equity market where small and large investors freely trade stocks and it is relatively easy to build a controlling stake in a firm.

This difference in market behavior combined with the massive upsurge in Japanese direct investment in the United States has led to charges against Japan of unfairness and closed markets. In a recent well publicized case, T. Boone Pickens, a U.S. corporate raider, bid for a voice in the management of a Japanese automotive lighting manufacturer but was rebuffed by that firm despite his status as the largest stockholder. Immediately following this development, a Japanese corporate raider ran into similar resistance from two Japanese supermarket chains -- again despite his significant stake in each firm.

The issue of stock cross-holding in Japan thus is linked tightly to several others, including an aversion to hostile mergers and acquisitions and the traditionally low regard by management for shareholder's concerns. By opening the pandora's box of stock cross-holding, the United States may become enmeshed in Japan's basic social and cultural mores. Nevertheless, these recent developments have sparked a debate in Japan over these precise issues, perhaps opening the way for gradual change.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

A Two-Part Report: A and B

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Planning Under Way For Bush-Kaifu Meeting

The ruling Liberal Democratic Party's startling defeat in the July 23 House of Councillors elections and the concurrent surge in popularity of the Japan Socialist Party have raised questions in the United States about the potential impact of these developments on Tokyo's economic and defense policies toward the United States. The Japanese government apparently is seeking to lay these concerns to rest by arranging a September 1 meeting in Washington between Prime Minister Toshiki Kaifu and President Bush.

This is the second meeting between the top leaders of Japan and the United States in two months; in mid-July Mr. Bush had met Mr. Kaifu's predecessor, Sosuke Uno, at the Paris economic summit. Given the domestic political events that have transpired since the Uno-Bush meeting, Tokyo appears particularly anxious to reassure Washington that the U.S.-Japan relationship is still the cornerstone of Japan's foreign policy. In addition, the Japanese government apparently wants to demonstrate that Mr. Kaifu and Foreign Minister Taro Nakayama, who also will make the Washington trip, have a thorough understanding of seem unconvinced by Mr. Hawke's assurance that his plan would not compromise the clout of their organization. Although Asean trade ministers have indicated they will come up with an official position on the various Pacific regional proposals at their upcoming September meeting, a more likely result will be an "open" position pending a review of ideas that will be presented in November.

Gretchen Green

Japan, U.S. Vary Approaches To Reduce CFCs

Under domestic and international pressure to freeze production of chlorofluorocarbons at 1986 levels, Japan and the United States have proposed almost predictable plans. In Japan the five major producers of CFCs, chemicals considered responsible for damaging stratospheric buffers, and the 35 major CFC users have formed an organization to work out how they initially will chop current levels by 30 percent. Tokyo also has restricted imports starting in July. American regulators are putting the burden on producers to cut their CFC output by about 20 percent this year, while legislation is working its way through Congress that would charge fees for the sale of CFCs in an attempt to prevent producers from capitalizing on higher prices pending the arrival of safe substitutes. Such a move also would decrease the cost incentive for buyers of CFCs, which so far remain cheaper than the available alternatives.

The move to shrink CFC production and use comes in the wake of reports that the chemicals are creating holes in the ozone layer of the earth's upper atmosphere. These holes allow more ultraviolet light to bombard the earth, reportedly causing an increased likelihood of skin cancers and complications for global warming. As a result of the international nature of the use of CFCs for refrigerants, foam packaging, aerosols and solvents used in semiconductor production, among other uses, 37 nations signed the 1987 Montreal Protocol agreeing to limit their production and consumption of CFCs to 1986 levels, starting in the July 1989-June 1990 period. Thereafter, the protocol called for cutting CFC levels in half by the year 1998. Given more recent data on the increasing problems of ozone depletion, many nations -- including Japan and the United States -- have said they will phase out all CFCs by 2000, pending safe substitutes.

Substitutes are the name of the game for many CFC producers and others hopping on the bandwagon. A variety of American and Japanese manufacturers are looking at alternatives to CFCs as well as new products that either recycle the chemicals or require fewer CFCs. But many of the alternatives are in a 20-year development and testing phase, according to a spokeswoman for E.I. duPont de Nemours & Co., which produces about half of America's CFCs and a quarter of the world's. Nevertheless, given the push to cut CFC use, many companies are collaborating in such groups as the Program for Alternative Fluorocarbon Toxicity and Testing, which lists among its members Daikin Industries, Ltd., a major Japanese maker of air conditioners, and two leading American producers, Allied-Signal, Inc. and duPont. The goal is to make CFC substitutes capable of meeting the safety requirements in each country represented in the program. (The other participants are from France, Britain and Italy.)

Recycling will be one of the ways that Japanese producers and users meet Tokyo's new restrictions. The 40-member industrial organization, chaired by the head of Showa Denko K.K., Japan's fourth-largest chemical company, will work to determine the mix of cutbacks necessary to meet Japan's 30 percent reduction from current levels to 1986 CFC levels (see Table). In addition, the government has announced plans to regulate imports by the 14 companies that draw on overseas sources.

1986 Production and Import Levels of CFCs

(in tons)

Country	Production	Imports
Japan	132,200*	9,740
United States	360,000**	n.a.

*Earlier figures from the Environment Agency suggested Japan produced 170,000 tons in 1986. Companies hesitate to release actual figures, which they consider proprietary information; this may be a factor in the discrepancy.

**Figures from the Alliance for Responsible CFC Use

Both industry and government have suggested that technology will enable Japan to be a leader in cutting worldwide CFC levels. Since developing nations for the most part are not signatories to the Montreal Protocol, it remains to be seen whether the technology for CFC substitutes will follow companies as they move production abroad. For example, both Matsushita Electric Industrial Co., Ltd. (which has said it will ban CFC production and use by 1995) and Hitachi, Ltd. have set up air conditioner factories in Malaysia. One of the reasons the signatories to the protocol are pushing for a phaseout of CFC use by 2000 is because countries like Malaysia, which is among the world's largest exporters of semiconductors and is a large producer of air conditioners, are expected to be using more and more CFCs until substitutes become available and affordable.

The U.S. method of cutting CFC production has been through regulations drafted and enforced by the Environmental Protection Agency. Basically, the five American producers have been allotted the same proportion of the market that they had in 1986 and are expected to trade, buy or sell production permits to cut back to earlier levels and stay within that range, according to one EPA spokesman. Enforcement depends on a company's reporting of its production, imports and exports, with stringent penalties aimed at noncompliance.

In addition, Congress is eyeing several measures, including some that would impose fees on any windfall that producers gain by selling increasingly limited supplies of CFCs. Other measures Congress is considering possibly would squelch some of the proposed CFC alternatives since they, too, have chlorine elements that attack ozone; however, the elements are shorter-lived than regular CFCs.

Although the bandwagon is rolling for those worried about being labeled a CFC producer or user, some heels are starting to drag. The U.S. Navy, for example, has said it will continue to use CFCs as refrigerants and cleaning agents and the related halon compounds used [illegible] firefighting. (Halons, themselves, are a touchy subject; they are considered by many to be more potent in depleting ozone than CFCs, but they are critical for their firefighting capacity.) Nevertheless, the market forces rallying behind CFC substitutes and related equipment (as well as the environmental pressures) may end up keeping more American and Japanese companies on the bandwagon than fighting a rearguard action to maintain old technologies.

Pat Murdo

Notes

Japan's China Policy - Japan has taken two steps toward more normal relations with China. On August 18 Tokyo lifted its advisory against traveling in China outside of the capital, Beijing, because the situation "has calmed down for the most part." Japanese travelers to China were told to continue to exercise caution, however, and to travel at their own risk. A similar warning regarding trips to Beijing itself will be relaxed when the "social and security situation" has been settled, according to a Foreign Ministry statement. The United States eased its China travel advisory August 9.

The Foreign Ministry also expects that official Japanese aid to China will resume in the near future. Since travel to areas outside Beijing now is permitted, MOF expects projects to be reactivated gradually. Projects in the Chinese capital will remain in suspension indefinitely, said a ministry spokesman. Neither a schedule of priorities nor a specific plan was given, however. It also is not clear whether bilateral talks on an Y830 billion ($5.9 billion at Y140=$1.00) aid package for FY 1990-FY 1995 will begin this fall as originally planned.

While the government tries to reduce Beijing's international isolation, Japanese banks remain cautious about resuming new lending activity in China. Some observers have predicted that the commercial banks will follow the lead of the World Bank and the Asian Development Bank, but others are less optimistic. Even if these two multilateral institutions begin considering new loans to China in the near future, the latter group argues, private banks will require much greater guarantees from China before accepting the heightened risks involved in commercial lending. This position was underscored by an August 20 Japanese press report that some Chinese partners apparently have stopped paying principal and interest on joint venture construction projects, many related to the tourist industry.

The Chinese partners gave several reasons for halting payments: work disruptions in the wake of the June student demonstrations, galloping inflation and the poor outlook for the tourist trade. (Many loans are to be repaid with profits from hotels and other tourism projects.) Although no exact figures were given, Nihon Keizai Shimbun said that many of the projects are in the multimillion-dollar range. Any defaults will test the enforceability of various penalty and repayment clauses of the joint venture agreements.

Although aware of the delicate political situation, Japanese banks are stressing that a firm position must be taken. They now are considering downgrading China's country risk assessment and lowering lending ceilings (currently in the $1 to $1.5 billion range). At the moment Japanese banks do not

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A Two-Part Report: A and B

NO. 34A September 1, 1989

JAPAN'S COMMERCIAL AIRCRAFT INDUSTRY: TRYING TO PULL OUT OF A STALL

Summary

Japanese industry today lacks the capabilities to independently design, develop, manufacture and market competitive commercial transports and high-thrust jet engines. But, as the recent controversy over the FSX project demonstrated, a cross section of Congress, the administration and the American public worries that Washington inadvertently is hastening the day when Japanese manufacturers challenge U.S. leadership in the civil aircraft field. Access to F-16 airframe technology, it is maintained, will give Japanese aircraft engineers valuable experience in design, development and systems integration, arguably the industry's biggest handicap. Supporters of the FSX program concede as much, but they assert that the skills and knowledge gained from military aircraft projects are not transferable to the commercial side of the business.

Whether or not experience in military aircraft design and systems integration can be applied to commercial development, Japanese producers never have banked on military technology transfers to improve their capabilities in the civilian area. Their plan for catching up has been straightforward: learning the commercial airframe and engine businesses firsthand through partnerships with foreign builders. This strategy, which has the potentially double benefit of addressing the other constraints hamstringing Japan's commercial aircraft makers, paid off at first. But now the industry is stalled. Boeing Co. has shelved plans to develop an advanced-technology 150-seat plane with Japanese participation, and what was expected to be a cutting-edge

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international engine project has not lived up to its advance billing. While Japanese manufacturers cannot afford to abandon the joint venture route, these setbacks increase the importance of any commercial spin-offs that Japan can obtain from the FSX program.

Trying to Move Up

Despite substantial development and manufacturing capabilities, Japanese companies remain bit players in the international commercial aircraft industry, limited to supplying airframe and engine parts to American and European builders or domestic customers. Production of commercial airplanes, subassemblies, parts, related accessories and engines for both the domestic and the export market totaled only $926 million last year (see Appendix). Even with the strong yen inflating the dollar value of shipments, this output equaled a fraction of comparable 1988 U.S. commercial aircraft sales, conservatively estimated at $30 billion. To make matters worse, output on the commercial side of the business has expanded by fits and starts, more than doubling in yen terms between 1980 and 1982, then leveling off for four years, jumping again in 1987 and expanding at a scaled-back rate last year.

Corporate sales figures convey the same picture of players still waiting for their big break. Industry leader Mitsubishi Heavy Industries, Ltd. had aerospace sales of $1.8 billion in FY 1988. But a large part of this 13.4 percent of total revenues came from the company's space operations, and most of the rest represented Japan Defense Agency contracts, the source of roughly 80 percent of the aircraft industry's business year in and year out. Similar caveats apply to the FY 1988 aerospace sales results for Kawasaki Heavy Industries, Ltd. (28.5 percent of the company's revenues or $1.7 billion) and Ishikawajima-Harima Heavy Industries Co., Ltd. (17.1 percent of the total or $819 million).

The parts supplier role clearly is not what Japanese industrial policymakers had in mind for the industry 30 years ago. At that time Ministry of International Trade and Industry officials were convinced that with government guidance and financial support Japanese companies could acquire the capability by the 1970s to independently design, develop, manufacture and market internationally competitive commercial aircraft. The technical success of the YS-11, a twin-engine turboprop designed to carry 60 or so passengers on short hauls, initially seemed to vindicate MITI's optimism. But the project turned out to be a commercial flop. Only 182 planes had been built by the time the program ended in 1973, including 76 for overseas customers, and the government, which had covered all of the YS-11's development costs and part of the production costs, got stuck with big losses.

The failure of the YS-11 program, coming on top of the advent of wide-body jets -- planes far beyond the medium-term technical capabilities of Japanese manufacturers, forced the government to rethink its strategy for the

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industry. A first for Japanese industrial policy emerged from this review as the indigenous development approach was scrapped, replaced by a less ambitious plan to gain the skills and knowledge to build large commercial transports and high-thrust jet engines through international partnerships. In another switch, policy planners decided that the government would limit future funding of commercial aircraft projects to research and development and then only about half of the costs; manufacturers would have to shoulder the risks of production and marketing alone.

While many foreign analysts in the mid-1970s doubted that the collaborative approach to playing catch-up would be any more successful than the go-it-alone strategy, MITI officials did not share these reservations. To them a world-class Japanese commercial aircraft industry was just a matter of time -- the 1980s, possibly the 1990s. Their confidence partly reflected the rapid advances domestic companies were making in electronics, materials and other product and process technologies relevant to aircraft. The main cause for optimism, however, was the prospect of Japanese participation in the development and production of Boeing Co.'s 767, a twin-engine, widebody, medium-range airliner initially designed to carry 210 to 220 passengers.

The 767 project, launched in the fall of 1977, represented Boeing's first venture with non-American risk-sharing partners -- MHI, KHI, Fuji Heavy Industries, Ltd. and an Italian aerospace consortium. Although MITI was angling for a more substantial role for the Japanese team, the three airframe makers, like their Italian counterparts, have a status somewhere between equity partner and subcontractor. The trio's design and development input was confined to the 767's fuselage sections and wing fairings, and its manufacturing contribution is restricted to these subassemblies plus a few other parts. Moreover, the Japanese companies are not involved in the marketing and sale of the technically advanced 767, which entered commercial service in September 1982.

The financial responsibilities of the Japanese participants were equally limited. Total Japanese development costs came to Y29 billion ($207.1 million at Y140=$1.00) over the five years through March 1983. The government put up just over half of these funds -- Y14.7 billion or $105 million -- in the form of "success-conditional" loans, money that is expected to be repaid when a project becomes profitable. MHI, KHI and FHI covered the remaining development costs and, in addition, invested an estimated Y20 billion ($142.9 million) or so in production facilities and tooling.

For this risk the Japanese team is guaranteed work on the first 500 767s produced by Boeing. But this guarantee has proved to be a mixed blessing since the project contract is written in dollars. With the run-up in the yen's value, the three companies reportedly are selling fuselage subassemblies to the aerospace giant at a loss. Even so, they have repaid roughly Y5 billion ($35.7 million) to the government from the proceeds of their 268 deliveries to date.

How much did Japan's aircraft industry learn about the commerical airframe business from its work on the 767? Manufacturers certainly gained experience in the design and development of fuselages for large transports, thanks to considerable input from Boeing, and their manufacturing skills were honed, at least in this area of the airframe. Moreover, with a large group of Japanese engineers stationed in Seattle during the 767's design stage, the industry acquired some familiarity with the use of CAD/CAM (computer-aided design and manufacturing) in the aircraft field and how to integrate different types of technologies into one system as well as make a plane lightweight and durable. Many industry watchers, however, characterize these gains as incremental increases in knowledge and ability, pointing out that the 767 sections handled by the Japanese side do not involve particularly sophisticated design or production technologies.

Advancement Stalled: Airframes

While the benefits of the 767 program were perhaps more limited than expected, MITI and Japan's airframe manufacturers still were upbeat in the early 1980s about the domestic industry's prospects for a breakthrough since talks were under way with Boeing on a follow-on project -- one involving full Japanese participation in the development and production of a new generation of fuel-efficient, medium-range aircraft in the 150-seat category. But Tokyo's hopes for a quick project start soon were dashed as the discussions, begun in 1980, dragged on year after year. Finally, in March 1986, Boeing and the Japanese trio initialed a memorandum of understanding on a state-of-the-art plane scheduled for delivery in the early 1990s. MHI, KHI and FHI would have the right to participate in every phase of the work from preliminary design through marketing and product support in exchange for funding roughly 25 percent of program costs, then projected at close to $4 billion, and shouldering the same proportion of the risk.

As things turned out, the MOU signing was the beginning of the end for the all-new 7J7 airliner. After postponing the start of development several times, Boeing put the project on indefinite hold in December 1987. By then the reasons for delay had become depressingly familiar to the Japanese partners. The biggest problem, corporate spokesmen said, was the market's lack of enthusiasm. Key potential customers could not agree on the 7J7's capacity, with airlines indicating an interest in anything from a 140-seat model to a plane carrying 170 or more passengers. In addition, the 7J7's fuel efficiency, expected to be a major selling point when the plane was conceived in the early 1980s, failed to interest carriers because of lower jet fuel prices. Airlines also had reservations about the innovative ultrahigh-bypass (propfan) engines slated to power the 7J7. The cost of the plane's long list of other advanced features worried them as well.

The shelving of the 7J7 left Boeing's Japanese partners in the lurch. By the time the no-go decision was made, the three airframe manufacturers had spent nearly seven years and close to Y8.6 billion ($61.1 million) of their own or borrowed money plus Y9.7 billion ($69.6 million) of the government's on preliminary design of an advanced-technology 150-seat plane. This effort, which included independent work as well as the collaboration of up to 120 Japanese engineers with Boeing's 7J7 development team, certainly was not a waste of time or money. Over the near term, however, the industry has no way to apply the knowledge and skills gained since it still lacks the full range of capabilities to develop a competitive airframe.

Having tied the aircraft industry's medium-run fortunes to continued work with Boeing, Japan's industrial policymakers were left stranded as well. MITI officials still hold out hope that the 7J7 project will be revived, but the chances of that happening any time soon are remote. Boeing's resources already are stretched, with output of current aircraft models nearing record levels, production of its latest widebody derivative -- the 747-400 -- behind schedule and quality issues dogging the company. The only major new effort now under consideration at Boeing is the 767-X, an all-new long-range, 350-seat plane that presumably would incorporate many of the advances pioneered for the 7J7. Japanese participation in the 767-X cannot be dismissed out of hand if Boeing does decide to go ahead with the program, but that solution to the Japanese industry's current stalemate has not been raised, at least publicly.

In the meantime the government continues to support R&D on a 150-seat plane designated the YXX. On top of the Y18.3 billion ($130.6 million) invested through March 1988, the three airframe makers put Y5.2 billion ($36.9 million) into design work in FY 1988, and they could spend as much as Y9.6 billion ($68.5 million) in the current fiscal year. This money, like the funds earmarked for R&D in FY 1986 and FY 1987, came entirely from the International Aircraft Development Fund. Set up in July 1986 to underwrite the costs of government-industry commercial aircraft projects, the quasi-public organization borrows from the Japan Development Bank and makes interest-free loans to manufacturers, using MITI funds to subsidize interest charges. But unlike MITI's previous "success-conditional" loans, the IADF money must be repaid regardless of whether a project moves into the production phase.

Given this catch, the amount of money going into airframe design and development has raised a few American eyebrows. Skeptics wonder if government and industry proponents of an independent development effort, in the minority for the last 15 years or so, now are gaining the upper hand in policymaking circles because of the indefinite suspension of the 7J7 program. MITI decision-makers and corporate executives officially downplay this talk, noting in part that all government-funded commercial aircraft projects must include foreign partners under an April 1986 revision of the 1958 Aircraft Industry Promotion Act. Yet YXX funding levels plus the ups and downs of the V2500 project, the international jet engine consortium involving Japanese companies, are likely to keep this speculation alive.

Advancement Stalled: Engines

Like the 7J7/YXX program, the V2500 project was billed by MITI as the big break needed by Japan's three aircraft engine makers -- KHI, MHI and industry leader Ishikawajima-Harima Heavy Industries. Through an 11-year (FY 1971-FY 1981), Y19.8 billion ($141.4 million) project funded entirely by the government, the trio had developed an experimental fuel-efficient, quiet turbofan engine to power 80- to 120-seat planes. To commercialize the FJR 710, however, the companies had to bring in Britain's Rolls-Royce Plc., which had been providing technical advice, at the end of 1979.

By early 1982 the 50-50 partnership was ready to test a 20,000-pound-thrust turbofan engine, a powerplant designed for 130-seat planes, but by then the short-range end of the airliner market seemed to be moving toward 150-seat planes like the proposed 7J7/YXX. Boosting the thrust of the then-designated RJ500 to the required 23,000-pound range would have at least doubled development costs, initially projected at Y140 billion ($1 billion). Neither Rolls nor its Japanese partners were willing to increase their financial exposure to that extent. Moreover, MITI, which had covered two-thirds of the Japanese team's Y17.4 billion ($124.6 million) in development costs between FY 1980 and FY 1982, reportedly had reservations about the project's greater risks.

With the support of MITI and the three Japanese companies, Rolls went shopping for a third partner, finally selecting United Technologies Corp.'s Pratt & Whitney aircraft division, then the world's top engine builder. That was the easy part. The partners then had to resolve such thorny issues as design specifications, work assignments and financial shares as well as scale some major regulatory hurdles in the United States. In the fall of 1983, however, the International Aero Engines consortium formally was launched to design, develop, manufacture and market the V2500, an advanced-technology turbofan engine for 150-seat planes that promised airlines significant fuel savings and reduced noise.

Rolls and its Japanese partners, drawing on the British firm's shroudless fan design and on the compression work done for the RJ500, were put in charge of the engine's high-pressure compressor and fan. This team has 53 percent of the V2500 work program, split 30 percent for the world's number-three engine maker and 23 percent for the three Japanese companies. Pratt & Whitney, also with a 30 percent work share, was assigned responsibility for the high-pressure turbine and combustor, while its two partners, a West German concern and an Italian firm, were given the low-pressure turbine and gearbox. This team was expected to tap the combustor technology incorporated in the 36,250-pound-thrust PW2037 turbofan developed in the early 1980s for Boeing's medium-range, standard-body 757 jetliner.

The V2500's planned five-year, $1 billion-plus development cycle got off to a successful start despite the unwieldy nature of the consortium backing the project. But things started to unravel in 1986 when initial engine testing revealed that the Rolls-designed high-pressure compressor could not deliver the desired performance. Until then the V2500 had been on an order roll, winning much of the engine business for Airbus Industrie S.A.'s upcoming 150-seat A320 over the competing CFM56-5A1 derivative developed by General Electric Co. and France's Snecma. The tables turned quickly, however, as the V2500 was hit by a two-year order drought. The redesigns needed to get the powerplant up to its planned configuration hurt sales; so did worries about the consortium's ability to meet its scheduled 1988 type certification date, which already was a year later than the CFM56's. In addition, lower oil prices made airlines less concerned about fuel savings, a major V2500 selling point, and more interested in engine reliability, a big plus for the GE-Snecma team since the CFM56 series has a track record dating back to 1982. To make matters worse, IAE lost one of its few key customers in early 1988 when Lufthansa German Airlines switched its A320 engine order to the CFM56, in part because of doubts about the increased-thrust potential of the basic V2500 engine, rated at 25,000 pounds.

IAE's success in achieving its mid-1988 type certification target was the first step toward restoring the credibility of the consortium, which reportedly was plagued by infighting because of the V2500's technical problems. The group's ability to meet its five-year-old goal of having the first V2500 engine in service by the spring of 1989 (May, as it turned out) also helped. Moreover, the project got a major vote of confidence at the start of 1989 when Braniff Inc. placed a big order. The CFM56-5A1, which entered into service in April 1988, still has a big lead in firm orders -- 817 versus 350 for the V2500 -- as well as in options (442 compared with 158), but the GE-Snecma team and IAE are running neck and neck on deliveries, with both close to shipping out their 100th powerplant for the twin-engine A320.

IAE executives are confident that over the long run the new-technology features of the V2500 and its better fuel efficiency will give the engine a sales advantage over the derivative CFM56. Industry analysts do not necessarily agree with this proposition, but unless the consortium does take the lead, the partners are unlikely to recover their development costs. These costs continue to add up since the companies are studying an increased-thrust (28,000 pounds) version of the V2500 for certification in the 1992-93 time frame as well as trying to reduce the weight and fuel efficiency of the basic engine.

Development costs for IAE's three Japanese partners already are high, particularly measured against what they are thought to have gotten out of the international tie-up. Through March 1989 Japan's total tab for the V2500 was Y60.3 billion ($430.7 million), including the Y17.4 billion ($124.6 million) spent on the work with Rolls in the early 1980s. Loans from commercial banks and the International Aircraft Development Fund financed Y23.1 billion ($164.8 million) of these outlays, and the trio of engine makers could borrow up to Y4.6 billion ($32.7 million) from IADF during the current fiscal year.

Industry experts guess that this money has bought IHI, KHI and MHI only a marginal increase in capabilities. As IAE junior partners their design and production responsibilities cover a relatively low-technology section of the V2500. Moreover, to satisfy U.S. antitrust concerns about a partnership involving two of the three biggest engine manufacturers in the world, the consortium is structured in such a way that each of the seven participating companies has complete charge of a separate part of the engine, and the only technical data exchanged is what is necessary to interface the sections of the modular engine.

Finding the Cause

While the catch-up process seems to have stalled, Japan's commercial aircraft industry does have strengths. Airframe companies are well-versed in designing and making parts -- not just fuselage subassemblies for the 767 but a variety of components for other Boeing aircraft, particularly the 747 series, as well as for McDonnell Douglas Corp.'s MD-80 family of medium-range commercial transports. Similarly, the experience of engine producers extends beyond developing and manufacturing a section of the V2500 to small shares in two Pratt & Whitney commercial engine programs. Moreover, airframe and engine firms alike continue to invest in their own R&D (including in the engine area work on propfan propulsion) to expand their proprietary know-how. Japan's other high technology industries bring additional strengths to the aircraft field, especially in the areas of avionics and aerospace materials, and these are backstopped by the country's overall manufacturing prowess and quality control systems. Then, too, the commercial side of the business has had the benefit of technological spin-offs from a succession of military coproduction programs with the United States, although the extent of this help is much debated.

The fact remains that these strengths, although considerable, do not add up to the capability to design, develop, manufacture and market internationally competitive commercial transports and high-thrust engines. Analysts disagree about the Japanese industry's major handicap, but the leading candidate is its limited experience in airframe systems design and integration -- the technically demanding science of translating aerodynamic theory into an aircraft that meets targeted performance requirements and, in the final step, fitting numerous subassemblies made up of thousands of parts and components into a workable structure. Japan's only attempt to develop and build a commercial airliner from the ground up was the YS-11 and, while the plane was a technical success at the time, its technology now is at least two generations old.

The industry's engineering and production experience is more extensive on the military side of the airframe business, but many experts question the relevancy of this background to commercial aircraft. Its initial attempt at independent development was a trainer, which are easier to design and build than fighters. Prime contractor Mitsubishi Heavy Industries began basic design work on the T-2 advanced jet trainer in FY 1967 and delivered 96 of them to the Japan Defense Agency between 1975 and March 1988. Japan's top airframe builder subsequently reworked the T-2 into the F-1 close support fighter. Smaller, slower and less capable than the F-4 developed in the late 1950s by McDonnell Douglas and the F-15 designed in the late 1960s by the same company, the 77 F-1s built by MHI between mid-1977 and March 1987 have several serious design flaws.

The latest indigenous military program, the T-4 intermediate jet trainer, is a big step up from the T-2/F-1 project. Both the airframe and the engine -- IHI's F3-30 turbofan -- were developed entirely in Japan, a first for the industry. The head-up display, on-board oxygen system and ejection seats are the only foreign equipment used in the plane, which features such technologies as digital avionics and the extensive use of composites. The T-4 also represents Japan's first use of CAD/CAM to design and build an aircraft. Moreover, under prime contractor Kawasaki Heavy Industries, which began development work in October 1981, the project came in on schedule and within budget, and the prototypes reportedly met all design specifications during flight testing. The first T-4 out of an order for 200-plus was delivered to JDA in the fall of 1988.

Ironically, some of the industry's best commercial aircraft technology is sitting on an unused airport runway in central Japan. Between 1977 and March 1989 the government's National Aerospace Laboratory spent Y38 billion ($271.4 million) to come up with a quiet, fuel-efficient STOL (short takeoff and landing) plane. By all accounts, foreign as well as domestic, the engineers succeeded, developing a research aircraft code-named Atsuka with world-class STOL capabilities. Atsuka is a modified KHI C-1 tactical transport with a new wing design powered by four 11,000-pound-thrust IHI/NAL FJR 710/600 turbofan engines. Among the state-of-the-art technologies incorporated in the entirely made-in-Japan plane are "fly-by-wire" controls, which replace mechanical and hydraulic cockpit controls, and a digital flight control system. Most notably, Atsuka needs about half the distance to take off as a 737, Boeing's smallest jet, and roughly 30 percent of the distance to land. This capability is ideal for the huge number of runways around the world that are too short to handle conventional jets. For cost reasons, however, neither the government nor the industry has any near-term plans to commercialize the STOL technology.

This irony highlights a truism: technical shortcomings are just the first of several factors standing in the way of the Japanese aircraft industry becoming a player in the international commercial transport market. Cost is another. The bill for designing, developing, testing and certifying the airframe for an all-new large (120 seats or more) plane starts at $2 billion and jumps from there depending on how much advanced technology is incorporated, while getting the plane into production can cost another $1 billion or so. The price tag for bringing a new high-thrust engine to the market is equally stiff -- roughly $1.5 billion. And no guarantees come with these enormous outlays. As people in the industry are fond of saying, airframe and engine manufacturers bet the company every time they introduce a new product. Even if a winner does come up, the payback period is long -- at least 10 years for a plane.

The high-risk stakes in the commercial aircraft business have narrowed the competition in large jetliners to Boeing, McDonnell Douglas and Airbus, with a trio -- Pratt & Whitney, GE and Rolls -- also fighting for market share in high-thrust engines. Of the three airframe manufacturers, only Boeing consistently has made money from commercial aircraft in the 1980s, and even its profits were sliced in the early years of the decade as the airline business slumped just as the company was introducing its 767 and 757 and rolling out new versions of its 737 and 747. McDonnell Douglas has not financed an all-new commercial plane in more than 20 years; its MD-80 series of medium-range planes is a spin-off of the DC-9 and the widebody, long-range MD-11 is a DC-10 derivative. For its part, Airbus has been able to stay in business since its founding in 1970 only because the four European governments backing the consortium have been willing to pump billions of dollars -- $14 billion, according to a 1988 estimate -- into the operation, which now is the world's second-largest maker with a technically advanced product line that soon will match Boeing's lineup across-the-board.

Despite MITI's ambitions for the domestic aircraft industry, the Japanese government is unwilling to go the route of its French, West German, British and Spanish counterparts, at least on the manufacturing side. That means that should Japanese aerospace companies somehow acquire the wealth of technical expertise needed to break into the international commercial aircraft market alone, they would have to cover most of the costs themselves and shoulder all of the risks. This is one gamble manufacturers, whether airframe builders or engine producers, will not take, particularly since they cannot even count on Japanese airlines to buy domestic.

The long list of Japanese industries that have become world-class competitors over the last two decades invariably launched their international marketing efforts from a strong domestic sales base. Airframe or engine makers would not have that edge. Aside from the fact that the Japanese market is too small to absorb the roughly 400 to 600 planes (depending on the model) a manufacturer needs to sell to break even, airlines have a vested interest in maintaining commonality across the different range of planes and engines in their fleet since they can obtain significant savings in maintenance and training. Japan Airlines Co., Ltd. has an almost all-Boeing fleet now powered entirely by Pratt & Whitney engines. The same is basically true for All Nippon Airways Co., Ltd. But in November 1988 ANA, after deciding to add 20 A320s to its fleet, defied government and industry expectations and ordered 50 CFM56-5A1 engines for the planes instead of the V2500. In putting a performance record ahead of nationality, Japan's second-largest carrier delivered an expensive reminder to the domestic aircraft industry of how it might fare in the international marketplace.

FSX to the Rescue?

Despite the Japanese aircraft industry's multiple handicaps in the commercial field, which also include limited experience in international marketing and product support, most trade and industry watchers zero in on its shortcomings in the airframe systems design and integration area. The proposed 7J7 program and before it the 767 project both led to charges at the time that Boeing was helping a future competitor eliminate its main weakness in exchange for financial support and less risk exposure over the medium term. The estimated $14.5 billion in military coproduction arrangements with Japan between 1977 and 1988 also provoked heated talk in some government and business circles about technology giveaways. No wonder then that Washington's decision to release the airframe technology for General Dynamics Corp.'s current F-16 to Japan for its next-generation FSX close support fighter triggered a whole new debate about technology sharing (see JEI Report No. 21A, May 26, 1989).

Under the FSX memorandum of understanding initialed by Washington and Tokyo in November 1988 and the April 1989 side letters, General Dynamics will work side by side with project manager Mitsubishi Heavy Industries on the design, development and integration of a modified F-16 -- changes that are being called a half-generation update rather than a radical redesign of the F-16, which already has undergone three major revamps since it was developed in the mid-1970s. Among the planned modifications are a bigger wing and longer fuselage to increase the plane's range and payload specifications; a larger nose to accommodate radar optimized for maritime search; the use of composite materials in what is now the F-16's all-metal fuselage; and the incorporation of Japanese avionics and instrumentation.

MHI and its Japanese subcontractors will have to depend on a considerable amount of in-house technology to design and develop the FSX's airframe and electronics systems since the United States has placed strict limits on the outflow of F-16 technology. MHI engineers will have access to basic information on the aerodynamic characteristics of the plane -- a first for the F-16 coproduction program. They also will be able to tap the design know-how of the General Dynamics engineers working on the FSX team. At the same time, however, Japanese industry will not get any information on source codes (software instructions) that would allow extensive modification of the software for the computers that control the F-16's avionics and instruments. Commercially sensitive hardware technologies also will not be transferred -- a ban that includes the F-16's fly-by-wire and digital flight control systems as well as high-temperature components and very high-speed integrated circuits. Moreover, no engine technology will be made available to Japan. Engines for the six prototype FSXs will be bought off-the-shelf from the two F-16 engine builders, GE and Pratt & Whitney. (Pratt's F100, used to power the F-15 as well as the F-16, already is made under license by IHI for the coproduced F-15J.)

There is no debate over whether the FSX program will give MHI and its Japanese subcontractors broad capabilities in the design, development and integration of current-generation fighter aircraft. Even embattled American proponents of the deal concede as much, although they point out that by the time MHI reaches the FSX integration stage, U.S. defense contractors will be working on the next-generation ATF/ATA fighter. The question instead is whether the skills and the knowledge Japanese industry acquires from the FSX project can be applied to the commercial part of the aircraft business.

Supporters of the FSX codevelopment arrangement state flatly that there are no technical linkages between the two sides of the aircraft industry.

Presumably behind this bald assertion is the fact that the performance requirements of large commercial transports and fighters are worlds apart. Jetliners are optimized for load-carrying capability, affordability and maintenance and operating costs (including fuel). The performance envelope is much wider for fighters -- maneuverability, speed, ability to withstand stress, weight, to name the major ones -- and these requirements involve more delicate trade-offs than for commercial planes. In addition, costs -- initial as well as operating and maintenance -- are secondary.

Critics of the F-16 technology transfer are equally adamant that the experience Japanese industry gains in FSX airframe design, development and integration is generally applicable to commercial aircraft programs. Their only wavering comes on the issue of whether these capabilities are directly transferable. Certainly no one in this camp expects the FSX project to close Japan's current 10-year-plus technology gap in large transports, in part because Japanese aircraft manufacturers are chasing a moving target in trying to catch up with Boeing, McDonnell Douglas and Airbus. At the same time, though, much of the avionics work the Japanese team will be doing on the FSX unquestionably is relevant to commercial aircraft -- fly by wire, digital flight control, inertial navigation. The main exceptions here are systems that are strictly military in nature like the electronic warfare set and the FSX's fire-control computer, although some avionics technology Japanese industry expects to develop, such as the phased-array radar, might not be cost-effective in commercial aircraft. Other areas where commercial spin-offs from the FSX project are likely include composites and hydraulics.

Hedging Bets

MITI and Japan's aircraft industry certainly hope the second school of thought proves right, but they are not waiting idly to find out. Off and on over the last five years industrial policymakers and executives of the industry's trade association have given serious consideration to the development of an advanced-technology commuter plane. Their initial target was an aircraft in the 100-seat range, but this plan was scrapped after projections put development costs at Y300 billion ($2.1 billion) and up. By the time the short-haul option was taken up again in 1988, government and industry executives had lowered their sights to the 50- to 100-seat range. They finally settled on a 75-seat commuter, and MITI got Y98 million ($700,000) put in the FY 1989 budget for a two-year feasibility study.

The consultants doing the study are proceeding on the assumption that the code-named YS-X program will be an international joint venture. Some rough calculations done in 1988 indicated that project participants would have to sell more than 600 planes to break even on their estimated Y100 billion ($714.3 million) investment but that carriers in Japan could be expected to take fewer than 100 of the planes. So far, though, planners can give prospective partners only a general idea of the YS-X's design requirements: affordability, reduced noise and high speed. The noise and speed criteria make the proposed twin-engine plane's powerplant critical to the success of the project, analysts say. In fact, they estimate that the development costs for the engine could exceed those for the advanced-technology airframe. Government and industry reportedly are considering an all-Japanese engine, possibly a derivative of the IHI F3-30 turbofan used to power the T-4 trainer.

Japan's interest in a 75-seat commuter comes at a time when U.S. aircraft industry executives and analysts are saying that the market both here and abroad is moving toward bigger planes because of increasing passenger traffic and congested airports as well as carriers' desire to lower seat-mile costs as traffic expands. Boeing, for example, projects that 90 percent of the aircraft delivered after 1995 -- the time frame MITI has in mind for the YS-X -- will have more than 170 seats. But Japan's proposed strategy for breaking into the commercial aircraft business has several attractions. For one, regional airline passenger traffic in the United States, which undoubtedly would be the main market for the YS-X, has grown 16 percent a year since the airline industry was deregulated in 1978, in part because major American carriers have gone to a hub-and-spoke system. Moreover, by going after the larger commuter plane market, Japan would stay out of the fray between Boeing and Airbus. All of the competitors in the commuter niche are second-tier players in the commercial aircraft business. All of them also are non-American; in fact, no planes in the 20- to 120-seat category are built in the United States.

Nevertheless, the number of aircraft builders targeting the international market for big commuter planes is high relative to projected demand. Among these producers are de Havilland Aircraft of Canada, Ltd., now owned by Boeing, which makes the 50-seat-plus Dash 7 and Dash 8; British Aerospace Plc. and its 64- to 72-seat BAe ATP plane; Holland's Fokker NV, which markets the 50-seat Fokker 50 and is considering a stretched version carrying 62 passengers; a joint venture between Aeritalia S.p.A. and Aerospatiale S.A. that has just added the ATR72, a 64- to 74-seat transport, to the 48-passenger ATR42 and is studying development of an 80- to 100-seat plane with a Spanish company; Saab-Scania AB of Sweden, the producer of the 50-seat Saab 2000; and West Germany's Messerschmitt-Boelkow-Blohm GmbH, which already has extended an informal invitation to Japan to join it and a Chinese company in the development of the MPC75, a twin-engine, 80-seat plane.

The crowded larger commuter market could scotch Japan's YS-X plans, an outcome that would leave aircraft manufacturers no closer to becoming players in the international commercial transport business than they were 30 years ago. Alternatively, the competition could provide a YS-X partner since a number of current market participants are looking for additional resources -- financial, if not necessarily technical. Japanese aircraft industry executives, however, are certain to think long and hard about accepting a junior partnership, particularly with a second-tier player. Either way, then, Japanese manufacturers could remain suppliers of parts -- albeit increasingly higher value-added parts -- to the world commercial aircraft industry for the foreseeable future.

For further information, contact Susan MacKnight.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

JEI Report will not be published September 8, 1989 because of the Labor Day holiday. The next report will be dated September 15, 1989.

APPENDIX

Aircraft Production in Japan, 1980-88

(in thousands of dollars*)

Year	Total	Customer: Defense Agency	Customer: U.S. Military	Customer: Domestic Market	Customer: Export Market	Total (million yen)
1980	$928,870	$758,737	$4	$90,315	$79,814	Y210,612
1981	1,037,227	790,451	0	84,629	162,147	228,750
1982	1,484,704	1,127,019	0	119,130	238,554	369,810
1983	1,494,106	1,139,657	80	159,151	195,217	354,865
1984	1,828,141	1,502,867	0	139,660	185,614	434,220
1985	2,278,117	1,928,142	0	158,099	191,876	543,422
1986	2,997,009	2,500,214	0	250,469	246,327	505,056
1987	3,736,601	2,990,390	0	394,967	351,244	540,462
1988	4,180,858	3,254,967	0	460,179	465,712	535,777

Aircraft Repair in Japan, 1980-88

(in thousands of dollars*)

Year	Total	Customer: Defense Agency	Customer: U.S. Military	Customer: Domestic Market	Customer: Export Market	Total (million yen)
1980	$235,578	$186,518	$7,917	$39,353	$1,791	Y53,415
1981	251,582	201,791	9,976	37,612	2,204	55,484
1982	272,776	209,619	8,499	52,915	1,742	67,943
1983	288,737	220,690	14,143	51,072	2,834	68,578
1984	305,368	220,744	15,982	65,700	2,943	72,531
1985	322,084	235,981	13,142	69,116	3,844	76,830
1986	507,507	376,454	19,380	105,252	6,415	85,525
1987	640,846	461,829	30,462	140,501	8,054	92,692
1988	704,128	534,023	16,964	140,515	12,626	90,234

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Production of Aircraft and Aircraft Engines in Japan, 1984-88

(in units)

	1984	1985	1986	1987	1988
Aircraft	120	125	92	111	149
Fixed-Wing Planes	47	48	43	53	70
Piston-Engine Planes	0	1	0	0	1
Turbojet Planes	40	39	35	42	59
Turboprop Planes	7	8	8	11	10
Helicopters	32	44	31	49	50
Other Aircraft	41	33	18	9	29
Engines	131	128	102	123	178
Piston Engines	8	0	0	0	0
Turbojet Engines	51	65	46	49	74
Turboprop Engines	20	31	30	43	59
Turboshaft Engines	48	32	26	31	45
Other Engines	4	0	0	0	0

Production of Aircraft and Aircraft Engines in Japan by Customer, 1984

(in units)

		Customer		
	Total	Defense Agency	Domestic Market	Export Market
Aircraft	120	93	5	22
Fixed-Wing Planes	47	32	0	15
Turbojet Planes	40	25	0	15
Turboprop Planes	7	7	0	0
Helicopters	32	22	4	6
Other Aircraft	41	39	1	1
Engines	131	124	7	0

Production of Aircraft and Aircraft Engines in Japan by Customer, 1988

(in units)

		Customer		
	Total	Defense Agency	Domestic Market	Export Market
Aircraft	149	102	7	30
Fixed-Wing Planes	70	40	0	30
Piston-Engine Planes	1	1	0	0
Turbojet Planes	59	29	0	30
Turboprop Planes	10	10	0	0
Helicopters	50	43	7	0
Other Aircraft	29	29	0	0
Engines	178	177	1	0

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Aircraft Production in Japan by Product and Customer, 1984

(in thousands of dollars*)

		Customer			Total
	Total	Defense Agency	Domestic Market	Export Market	(million yen)
Aircraft	$647,411	$599,015	$3,406	$44,990	Y153,773
Fixed-Wing Planes	520,200	506,101	0	14,100	123,558
Turbojet Planes	398,682	384,582	0	14,100	94,695
Turboprop Planes	121,518	121,518	0	0	28,863
Helicopters	119,304	85,104	3,351	30,848	28,337
Other Aircraft	7,907	7,810	55	42	1,878
Fuselage Parts	560,866	400,316	49,192	111,359	133,217
Engines and Parts	379,151	325,008	45,234	8,909	90,056
Engines	231,614	228,890	2,724	0	55,013
Piston Engines	25,059	25,059	0	0	5,952
Turbojet Engines	172,394	172,394	0	0	40,947
Turboprop Engines	16,984	16,984	0	0	4,034
Turboshaft Engines	16,992	14,268	2,724	0	4,036
Other Engines	185	185	0	0	44
Engine Parts	147,537	96,118	42,510	8,909	35,043
Propellers and Rotors	17,897	17,249	0	648	4,251
Accessories	60,648	50,947	4,896	4,804	14,405
Instruments	93,150	61,439	28,882	2,829	22,125
Training Devices	25,328	24,019	1,309	0	6,016
Support Equipment	43,689	24,874	6,740	12,075	10,377
Total Production	1,828,141	1,502,867	139,660	185,614	434,220

Aircraft Production in Japan by Product and Customer, 1988

(in thousands of dollars*)

		Customer			Total
	Total	Defense Agency	Domestic Market	Export Market	(million yen)
Aircraft	$1,382,630	$1,327,554	$17,269	$37,807	Y177,184
Fixed-Wing Planes	987,312	949,504	0	37,807	126,524
Piston-Engine Planes	1,849	1,849	0	0	237
Turbojet Planes	660,148	622,341	0	37,807	84,598
Turboprop Planes	325,314	325,314	0	0	41,689
Helicopters	384,136	366,867	17,269	0	49,227
Other Aircraft	11,182	11,182	0	0	1,433
Fuselage Parts	1,268,076	735,794	240,882	291,401	162,504
Engines and Parts	794,608	672,282	89,973	32,353	101,829
Engines	429,762	429,598	164	0	55,074
Turbojet Engines	287,452	287,288	164	0	36,837
Turboprop Engines	87,304	87,304	0	0	11,188
Turboshaft Engines	55,006	55,006	0	0	7,049
Engine Parts	364,846	242,684	89,809	32,353	46,755
Propellers and Rotors	32,876	31,276	336	1,264	4,213
Accessories	243,988	218,158	14,920	10,909	31,267
Instruments	257,487	176,184	71,463	9,840	32,997
Training Devices	73,578	72,431	952	195	9,429
Support Equipment	127,616	21,288	24,385	81,943	16,354
Total Production	4,180,858	3,254,967	460,179	465,712	535,777

*The yen data were converted into dollars using the following average annual exchange rates:

1980	Y226.74
1981	220.54
1982	249.08
1983	237.51
1984	237.52
1985	238.54
1986	168.52
1987	144.64
1988	128.15

Source: Ministry of International Trade and Industry, Yearbook of Machinery Statistics

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JEI
REPORT

A Two-Part Report: A and B

NO. 35A September 15, 1989

STATE EXPORT PROMOTION EFFORTS TO JAPAN

Summary

Increased tension at the national level about foreign direct investment and America's $100 billion-plus worldwide trade deficit have contributed to a surge of state interest in international trade and competitiveness issues as well as some confusion abroad stemming from different attitudes at the state and the national levels. Over the last decade states have included on their agendas more export promotion activities to complement existing investment attraction programs. With the shift in trade patterns toward Asia and away from traditional European markets, most states have opened offices in Asia, particularly in Japan. These foreign offices provide expertise and up-to-date information that enhance exporters' chances for success. In hopes of improving the odds, some states are moving beyond broad-based export promotion toward strategic planning.

Introduction

States historically have been interested in ensuring their own strength and prosperity. Since colonial days the states have engaged to varying degrees in international trade. In the increasingly global society of the 1980s states have been looking to expand their markets abroad and have shifted from earlier efforts to attract foreign investment to international export promotion policies, theorizes Peter Eisinger, author of Rise of the Entrepreneurial State.[1] Most states, however, continue to actively pursue some combination of the two policies.

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[1] Peter Eisinger, The Rise of the Entrepreneurial State (Madison, Wisconsin: University of Wisconsin Press, 1989), p. 22.

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State economic development offices promote their states through a number of programs. The most common activities fall into the following areas: export promotion for manufactured products, agricultural export promotion, export finance, investment attraction, tourism and local economic development. Depending on the size and strengths of a state's economy, some activities, such as promotion of agricultural products, may be handled by another appropriate state agency.

In recent years states' attempts to attract foreign direct investment, particularly from Japan, have gained a high profile. One reason for this exposure is the cost of the incentives. Some feel that states may give away too much from the taxpayers' coffers with little assurance of realizing economic benefits over a reasonable time period. The states often use a tax incentive program to entice a new plant. Although some jobs may be created, many citizens do not feel they should have to pay higher taxes so that a wealthy corporation, which will receive a tax break, will set up in their region.

Another aspect of foreign direct investment's high profile stems from the debate over job creation. While most analysts agree that foreign investment creates jobs, some economists contend that many of the 100,000-plus people now working at manufacturing or assembly plants built by Japanese corporate investors simply displace employees of American-owned factories, with little net increase in employment opportunities.

Juxtaposed against the economic arguments for foreign direct investment is the concern over the "buying of America." For many Americans the most visible signs of foreign direct investment have been real estate purchases or industrial investments, including takeovers, by Japanese firms. Such purchases, particularly those of the Japanese, are at the heart of numerous legislative efforts by Rep. John Bryant (D, Texas) to require stricter registration of foreign investments in the United States (see JEI Report No. 2B, January 13, 1989). His and others' actions on Capitol Hill at times seem in conflict with efforts by state officials to generate foreign direct investment. Former Minister of International Trade and Industry Hajime Tamura complained that while there is criticism at the federal level about Japanese investment "on the other hand governors come here [Tokyo] all the time asking for our business -- imports as well as investment."[2]

Against this ambivalence states are paying more attention to exports, a noncontentious issue, while continuing investment attraction to varying degrees. Thirty-nine states today have some type of office or representative in Japan, and many of the others are considering opening Japanese branch offices. The interest in Japan goes far beyond that in any other country, perhaps because of the degree of help companies may require to enter that market or perhaps because of Japan's ability and willingness to invest overseas. The concentration of overseas offices is focused on other Asian markets, too. Taiwan,

[2] Jonathan Kandell, "U.S. Governors Wooing Foreign Investors," Wall Street Journal, December 15, 1988, p. A14.

South Korea and Hong Kong, respectively, had 11, 11 and 10 state offices as of March 1989, according to data compiled by the National Association of State Development Agencies. Only West Germany, with 12, had more. The other two leading European locations for states are Belgium, which houses nine offices, and England, which has seven. More overseas offices are being opened almost monthly.

The preponderance of state trade offices in Asia is a reflection of shifting trade patterns toward the East and away from more traditional markets in Europe. Last year, for example, America's two-way transpacific trade totaled $271 billion, $85 billion more than transatlantic trade. A few states that have no Tokyo office -- Arizona, Idaho, Rhode Island and Wyoming -- run their operations out of another Asian office. Maine is the only state with an overseas office and no Asian operation. Only six states, principally those with small budgets, have no overseas offices. Several small states, such as South Dakota, are considering a time-sharing plan in which one office could serve the needs of a group of states. Not all of the states' overseas offices are government-run; some are contracted out to independent consulting firms. Some states group together to form trade councils, such as the Mid-South Trade Council, which serves the interests of Kentucky, Tennessee, Arkansas, Mississippi and Alabama.

Export Efforts to Japan

When companies decide to take the plunge to export to Japan, they have several basic options of how to go about it. Large firms with considerable research capabilities, other export experience and the financial backing to hire private consultants may decide to go it alone. Most small and medium-sized firms, however, seek help through federal and state agencies as well as from the quasi-governmental Japan External Trade Organization. The Department of Commerce's International Trade Administration has a nationwide network of 47 district offices and 21 branch offices. Commerce provides counseling for companies, especially for particular problems that a product or a firm may have in entering a foreign market. The federal government can go to bat for companies that may run into unusual or discriminatory roadblocks.

In addition to advice about specific problems, Commerce's ITA offices offer a number of programs to help exporters, including: international market research; market contact services, such as trade lists and the trade opportunities program (TOP); catalog shows; trade missions; and a wide variety of printed reference materials. JETRO also tries to help U.S. exporters by hosting Japanese trade delegations in the United States, coordinating trade missions and developing initial contacts in Japan. Some firms may turn to private consultants, who help develop tailor-made export strategies and may be more adept than the company at tapping sometimes complex American bureaucratic resources. Exporters also can get financial assistance from the U.S. Export-Import Bank and marketing advice from the Small Business Administration.

The states, primarily through their state economic development offices or new world trade centers, try to help firms that may have more fundamental problems. Advice can be as basic as how to get into exporting and which products would be appropriate for which market. Even firms that have some export experience with Canada or Europe may seek help to enter the Japanese market. The states offer a number of programs, including trade shows, trade missions, trade leads, matching of possible foreign partners and newsletters.

Phil Grebe, deputy director of business development in Indiana, says the most important factor for firms proposing to enter the Japanese market is "the commitment of top management." Success in Japan generally hinges on long-term commitment to the market and the building of personal relationships. Brian Davis from the Alabama International Trade Center feels that the largest problem facing exporters to Japan is a lack of long-term commitment coupled with difficulties in finding contacts in Japan. However, long-term commitment may not prove a feasible formula for small American exporters. Other export markets, such as Canada's, may provide a quicker, more profitable turnaround, which could prove vital for small exporters that may not have the capital to support long-term losses while waiting to gain market share. Thus, a state also may encourage some firms to enter a more appropriate market. In Alabama the trade promotion personnel try to "help weed out those companies which are not ready to enter the Japanese market or are not appropriate," says a trade official there. Similarly, Indiana trade officials suggest companies ask themselves whether the time and the money involved in export promotion to Japan are worth it.

The governor as head of his state can play a key role in promoting its image and its exports. Trade missions to foreign countries often are lead by governors, who have the clout needed to meet with key foreign dignitaries and command a high profile in the press. In recent years the National Governors Association has emphasized the issues of trade and competitiveness. Virginia Gov. Gerald Baliles (D) made international trade his key agenda item in 1988 as head of NGA. A report issued last spring by NGA's Task Force on Foreign Markets emphasized three goals: making trade a top state priority, increasing export activity and developing new markets. The importance of a governor, however, has a down side in that a change in administration or, what is perhaps more important, a new approach to international trade by a new governor can be as damaging as a lack of commitment by the top management of a firm.

Another approach used to promote exports is a sister-state relationship. For larger, well-known states this type of relationship may prove less helpful than for smaller states. The pairing can give states and their counterparts a chance to develop personal ties and the cultural understanding that may prove helpful in estab- lishing trade and investment links.

Problems Facing Exporters

The difficulties that exporters must come to grips with in dealing with Japan seem to be the same nationally. Some potential exporters are scared off before they even start, due to stories about how difficult the Japanese market is to crack. Problems range from coping with the sometimes daunting distribution system to cultural misunderstanding and from a lack of commitment by top management to inexperience at exporting.

Many foreign businessmen complain about the Japanese distribution system. Ralph Grainer, director of Wisconsin's Bureau of International Development, notes that exporters frequently refer to Japan's distribution system as a "closed loop." The federal government, too, is concerned about Japan's distribution system and has made it an issue in the U.S.-Japan structural impediment talks (see JEI Report No. 34B, September 1, 1989). There is some support within Japan, too, such as from Keidanren, to change the distribution system. Japan trade experts point out that the distribution network does not discriminate against foreign companies but rather places all newcomers, even Japanese, at a disadvantage to established firms. But those who are committed to the market often are the ones to succeed, points out Dirk Vaubel, a Tokyo-based consultant who formerly spearheaded Wella Balsam's entry into Japan. With hints of changes to come in the distribution system, a number of firms have adopted a wait-and-see attitude before taking a shot at competing in Japan, says a New Jersey economic development officer.

Many states are working on training exporters because a lack of education is viewed by some as a major problem facing those seeking overseas markets. Since some companies may lack an appreciation of Japan's culture and its differences as compared with America's and since many firms lack export expertise, states and other agencies design trade seminars to help overcome these hurdles.

A more localized problem that seems to face many states in Japan is a lack of recognition. Potential customers in Japan may not be familiar with a particular state's location, major manufactures or possibly even the name. Wisconsin state officials believe that by opening an office in Tokyo in 1989 they increased the state's visibility as well as provided Wisconsin firms with better access to trade leads and better contacts than they could offer out of former operations in Hong Kong. Kentucky, too, said that it has had to work to develop its image as a state, although Japanese already were familiar with such popular items as Kentucky Fried Chicken and Kentucky bourbon.

A number of state development offices contacted by the Japan Economic Institute felt that there were no major problems in dealing with Japan. But gaining the necessary understanding of the culture was said to be difficult. American companies have to be willing to change their attitudes, says a South Dakota trade officer. Firms must be willing to modify products not just by converting electrical standards and using metric measurements but also by conforming to Japanese tastes. One South Dakota exporter was able to sell beef there successfully after he changed the way in which the meat was cut. A Virginia state export coordinator added that firms need a "different mind-set" to export overseas and to understand other markets.

A Question of Budgets

State budgets for international trade cover a wide range, from $7,000 for New Hampshire in 1988 to $10.5 million for California (see Appendix). States with large budgets usually can develop sophisticated strategies for developing overseas markets and attracting investments. But even states with small budgets can be active despite their limited resources. Some states with small trade coffers have taken bold, creative steps, while others are moving ahead more methodically, concentrating on making the best use of available funds.

Although Vermont has one of the smallest state budgets for export promotion, at just $18,000 in FY 1988, according to NASDA, the Green Mountain state has had modest success in exporting to Japan and even has Tokyo office space and personnel, paid for by a donation from Sumitomo Corp. Vermont's success has been built on personal relationships developed over the years. A Japanese corporate executive established a relationship with one of the private universities in the state. The ties that developed established a variety of trade links, including advice and the trade office. Fostering the cultural bridge, Vermont companies have been able to export homespun products such as furniture, maple sugar and quilts. The state's relationship with Japan's fourth-largest trading company has had obvious benefits for trade.

South Dakota also has a small budget, just $51,100 in FY 1988, and maintains no overseas offices. Because of the limited funding, Paul Knecht of the state Economic Development and Tourism Office, told JEI that the state is looking for "the greatest return for its efforts." South Dakota currently sends half of its exports to Europe and only 10 percent to Japan. The state concentrates on export promotion to Japan and deals with investment requests as they come. Most of the exports are agricultural products, especially meat. The governor of South Dakota went in June on a trade mission to Japan, which was his second trip in three years. Still, export efforts are geared more toward Canada, which is seen as an easier market to enter.

Strategic Planning

As states seek to develop better ways to succeed in export markets, many have begun to examine the concept of strategic planning or targeting industries. According to author Peter Eisinger, at least 37 states have adopted strategic plans to target industries or sectors, especially high technology areas. The National Governors Association also promoted the concept in the previously mentioned report, "America in Transition: The International Frontier." Virginia's Gov. Baliles expounds, "The shotgun approach won't work. We must identify specific commodities and products that can be successfully marketed overseas."[3] More than half of the states also have venture capital programs that help finance new, small businesses, including potential exporters like high technology firms.

Unlike several other states, Kentucky has been disappointed with the results of its trade missions to Japan. Some state officials now say they prefer to target industries that may be successful in exporting to Japan. Among the key products they mention are: medical products, processed foods, hardwood and thoroughbred horses. Echoing the sentiments of many states, Kentucky trade officials believe that exporters need to be better educated and are offering five statewide export seminars that will focus on Japanese business practices. Kentucky earmarks a small portion -- approximately 10 percent of its $1.1 million international budget in 1988 -- for export promotion efforts. The bulk of Kentucky's energies are spent on investment attraction. Kentucky officials believe, as do many states, that while there is competition on the investment attraction side, states are generally compatible on the export promotion side.

Four States

States' experiences with export promotion vary greatly depending on such factors as the size of the state economy, its natural resources and the strength of the manufacturing base. Below is a closer look at the track record for exports of manufactured products by four states in different regions of the country.

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[3] William Scouton, "States See Exports as a Tool for Local Business Expansion," Business America, February 27, 1989, p. 7.

California - The Golden State is in a league of its own because of its enormous size. The economy of California is larger than that of most countries. Former President Reagan used to say that if California were an independent country, its gross national product would rank seventh in the world. California, which shipped $17.2 billion worth of goods overseas in 1986, is the leading exporter of manufactured goods in the United States and topped the list of manufactured exports in nonelectric machinery, electric and electronic equipment and food products (see Appendix).

Its FY 1988 budget for export promotion was $10.5 million, half of which was for agricultural goods. This was nearly double the FY 1986 budget of $5.7 million. The state has two overseas offices -- in Tokyo and London -- and is opening a Mexico City office this year. The combined budget for the offices in Japan and England, which are state-owned facilities, is $1.5 million, split evenly between export promotion activities and investment attraction.

California also has established an office to provide help to exporters by providing them with loan guarantees. Twenty-two states offer such services and five others have passed legislation to allow state-supported financial backing. The Export Finance Office has reserves of approximately $4 million, which it uses to guarantee up to 85 percent of working capital within a $350,000 limit. The California agency has helped nearly 90 firms over the past year. Since 1985 it has aided more than 140 companies with guarantees totaling $25 million.

Sacramento's policies also have led to jobs for Californians. Some 290,000 jobs in the manufacturing field are linked directly to exports, which represents almost 15 percent of the positions in manufacturing. Approximately another 277,000 positions have been created indirectly through exports of manufactured products.

California, like the majority of states, has an office in Washington, which has been influential in promoting its trade views and trying to get California's position reflected in federal legislation. California's influence on trade policy can be seen in the 1988 Omnibus Trade and Competitiveness Act's inclusion of 16 out of 18 positions taken by California's World Trade Commission, which analyzes the impact of trade legislation for the state.

Indiana - The state's international promotion budget for FY 1987/88 was $1.1 million, up from two years previously when it allotted approximately $700,000. The money was split almost equally between export promotion and investment attraction. The $500,000 spent in 1988 for the Tokyo office, however, was used primarily (roughly 85 percent) to enhance investment in Indiana. The office in Japan is under contract.

In 1986 Indiana just missed being a top 10 exporter of manufactured products, finishing in eleventh place. The value of its manufactured exports was $4.8 billion. The state ranked third for three types of exports: electric and electronic equipment, primary metals and rubber and plastic products. Although the third biggest exporter of electric equipment, Indiana's shipments of $979 million were less than 25 percent of California's. Indiana employed 76,000 people in 1986 in the export-related manufacturing sector, which was roughly 13 percent of its manufacturing employment. Surprisingly, Indiana has an export finance program the same size as California's -- $4 million.

Virginia - Led by the international trade-oriented Mr. Baliles, the state's international budget for 1988 was $1.5 million, considerably more than the 1986 commitment of $600,000. The state placed 21st as an exporter of manufactured goods in 1986 with $2.7 billion. Virginia only cracked the top-five exporter category in tobacco manufactures, reaching second place with $552 million in foreign sales. In a caustic evaluation of Virginia's weak manufacturing base, the Wall Street Journal categorized the state's relationship with Japan -- an exchange of raw materials and relatively low wage rates in return for Japanese investment -- as one "somewhere between a developing nation and a newly industrialized country."[4] Virginia had only 38,000 jobs related to the export of manufactures in 1986, just 9 percent of its jobs in manufacturing that year.

Virginia spent 20 percent of its international funds on export promotion in 1988 and only 10 percent of its $300,000 Tokyo budget to develop exports. The majority of Virginia's money was spent on foreign investment attraction. The governor's active promotion of the state has resulted in more overseas trips for him than any other state head over the last three years. Virginia offers no export finance guarantee program.

Alabama - The state is geared toward export promotion with more than 60 percent of its budget aimed at helping Alabamans ship goods overseas. Its budget has soared over the past two years to $1.3 million in 1988 from $600,000 just two years earlier. The Tokyo office spends 40 percent of its $300,000 budget to develop exports. Alabama does not offer export finance assistance as it is constitutionally banned from doing so at this time, but constitutional changes are under discussion.

Alabama was the 29th largest state exporter of manufactured goods in 1986, with $1.7 billion, and it had 32,000 jobs in the export-related manufacturing sector. The state ranked fourth in the export of apparel and made-up textile products with a value of $82 million and fifth in the export of textile mill products, worth $70 million.

Alabama began its trade promotion efforts two-and-a-half years ago; its investment attraction activities started about six years ago. Trade officials believe that it will take time for the focus to shift as there is an established mind-set for economic development in the state. "Trade is the new kid on the block," an Alabama economic development official noted.

[4] Kandell, op. cit.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

APPENDIX

Table 1: Manufactured Exports and Export-Related Employment by State, 1986

(exports in millions of dollars and employment in thousands)

State	Rank as Exporter	Direct Exports	Export-Related Shipments as Percent of Total Shipments	Total Civilian Employment	Employment Related to Manufactured Exports	Percent of Civilian Employment	Manufacturing Employment Related to Manufactured Exports	Export-Related Employment as Percent of Manufacturing Employment
Total	--	$159,377	13.0%	111,874.3	4,576.6	4.1%	2,318.2	12.6%
California	1	17,216	14.0	12,526.0	566.3	4.5	289.6	14.7
Texas	2	10,982	14.3	7,779.9	287.2	3.7	122.6	13.5
Michigan	3	10,878	12.9	4,048.8	213.9	5.3	125.3	13.3
Ohio	4	10,653	13.9	4,931.7	264.2	5.4	151.4	13.9
Washington	5	9,863	28.2	2,093.0	113.9	5.4	59.6	21.4
New York	6	9,412	12.4	8,112.7	338.0	4.2	160.9	12.7
Illinois	7	7,209	12.2	5,377.9	238.6	4.4	123.9	12.5
Pennsylvania	8	6,027	12.6	5,371.6	232.0	4.3	132.0	12.7
Massachusetts	9	5,514	15.9	2,950.3	160.9	5.5	95.9	15.6
North Carolina	10	5,261	11.4	3,017.9	135.1	4.5	75.5	9.4
Indiana	11	4,787	13.7	2,583.1	133.0	5.2	76.0	13.2
Missouri	12	4,268	11.4	2,406.4	89.4	3.7	44.0	10.8
Connecticut	13	3,996	17.2	1,657.4	107.3	6.5	63.8	16.1
Minnesota	14	3,692	14.2	2,143.5	105.5	4.9	54.0	15.1
New Jersey	15	3,548	10.5	3,713.0	162.4	4.4	80.0	11.8
Florida	16	3,373	12.4	5,324.7	146.4	2.7	52.5	10.9
Wisconsin	17	3,314	10.5	2,266.1	105.6	4.7	56.5	11.6
Louisiana	18	3,020	13.6	1,856.5	51.7	2.8	16.7	10.5
Tennessee	19	2,910	10.9	2,150.4	82.6	3.8	42.2	9.0
Georgia	20	2,827	8.6	2,902.3	92.5	3.2	42.5	7.8
Virginia	21	2,704	10.7	2,779.5	81.0	2.9	38.4	9.4
South Carolina	22	2,398	13.7	1,470.5	67.7	4.6	39.1	11.1
Kentucky	23	1,940	11.1	1,570.9	52.8	3.4	24.4	10.3
Iowa	24	1,932	10.5	1,354.6	49.8	3.7	20.7	10.7
Oregon	25	1,863	14.5	1,279.2	59.0	4.6	27.9	15.0
Kansas	26	1,835	9.4	1,179.7	46.7	4.0	20.3	10.9
Arizona	27	1,756	20.4	1,529.1	58.5	3.8	31.3	19.0
Maryland	28	1,740	11.9	2,262.7	55.9	2.5	25.4	11.7
Alabama	29	1,685	12.1	1,719.9	62.6	3.6	31.7	9.6
Colorado	30	1,478	12.2	1,648.2	52.1	3.2	25.3	14.0
Mississippi	31	1,337	11.3	1,070.7	35.2	3.3	16.7	8.2
Oklahoma	32	1,085	9.9	1,518.2	46.0	3.0	19.3	12.1
Arkansas	33	1,065	10.6	1,012.6	35.9	3.5	17.8	9.2
West Virginia	34	983	19.6	697.9	25.0	3.6	12.4	14.4
New Hampshire	35	893	17.6	505.0	26.0	5.2	15.5	15.2
Maine	36	801	13.8	530.5	21.0	4.0	12.1	12.0
Nebraska	37	753	8.6	773.0	22.8	2.9	8.2	9.3
Alaska	38	713	39.4	252.0	6.9	2.7	3.6	40.0
Utah	39	668	13.2	725.5	23.4	3.2	11.9	13.0
Idaho	40	503	13.4	445.8	15.0	3.4	6.1	12.5

A

(continued)

State	Rank as Exporter	Direct Exports	Export-Related Shipments as Percent of Total Shipments	Total Civilian Employment	Employment Related to Manufactured Exports	Percent of Civilian Employment	Employment Related to Manufactured Exports	Employment as Percent of Manufacturing Employment
Rhode Island	41	482	12.7	475.0	21.5	4.5	12.9	11.9
Delaware	42	430	10.2	313.2	13.6	4.4	8.0	12.5
Vermont	43	384	20.1	277.1	14.2	5.1	8.4	19.5
North Dakota	44	215	14.8	322.1	8.9	2.7	2.0	14.2
Hawaii	45	214	10.3	478.8	5.3	1.1	0.7	3.1
South Dakota	46	213	8.5	333.5	7.7	2.3	2.1	7.9
New Mexico	47	178	11.9	651.9	9.5	1.5	2.4	7.1
Nevada	48	167	12.9	525.9	7.6	1.4	2.7	12.9
Montana	49	101	10.6	394.2	7.7	1.9	1.6	7.9
Wyoming	50	19	8.0	239.8	3.9	1.6	0.5	7.4

Source: Department of Commerce, Bureau of the Census, Exports from Manufacturing Establishments: 1985 and 1986.

Table 2: State Manufactured Direct Exports Rank by Industry, 1986

(in millions of dollars)

Industry	United States	First	Second	Third	Fourth	Fifth
Total	159,377	California 17,216	Texas 10,982	Michigan 10,878	Ohio 10,653	Washington 9,863
Transportation Equipment	36,007	Washington 6,829	Michigan 6,353	Ohio 5,079	Missouri 2,869	California 2,710
Nonelectric Machinery	32,456	California 4,874	Illinois 2,563	Minnesota 2,199	New York 2,068	Massachusetts 2,063
Chemicals and Related Products	20,968	Texas 4,106	Louisiana 1,557	New Jersey 1,215	New York 1,033	Florida 945
Electric and Electronic Equipment	18,136	California 4,259	New York 1,772	Indiana 979	Massachusetts 900	Illinois 796
Food Products	11,180	California 1,217	Texas 914	Illinois 727	Kansas 709	Iowa 542

B

(continued)

- Industry	United States	First	Second	Third	Fourth	Fifth
Precision, Medical and Photographic Equipment	8,513	New York 1,738	California 1,161	Massachusetts 702	Pennsylvania 541	Connecticut 400
Fabricated Metal Products	5,184	Michigan 772	Ohio 642	Pennsylvania 383	Illinois 378	Texas 375
Paper and Paper Products	4,052	Washington 505	Georgia 314	Mississippi 284	South Carolina 259	North Carolina 242
Primary Metals	3,404	Pennsylvania 378	Ohio 352	Indiana 286	New York 249	California 194
Petroleum and Coal Products*	3,134	Texas 764	California 654	Louisiana 531	Pennsylvania 250	Hawaii 130**
Rubber and Plastic Products	2,956	Ohio 374	Massachusetts 255	Indiana 195	South Carolina 181	Michigan 174
Lumber and Wood Products	2,678	Washington 815	Oregon 520	Pennsylvania 158	California 149	North Carolina 97
Tobacco Products*	2,023	North Carolina 1,114	Virginia 552	Georgia 120**	Tennessee 108	Kentucky 47
Textile Mill Products	1,785	North Carolina 570	Georgia 318	South Carolina 266	Virginia 76	Alabama 70
Miscellaneous Manufactures	1,647	New York 301	Rhode Island 180	California 156	Massachusetts 146	Illinois 96
Nonmetallic Mineral Products	1,551	Ohio 253	Pennsylvania 132	Massachusetts 104	Tennessee 100	North Carolina 94
Apparel and Made-up Textile Products	1,391	Michigan 337	New York 168	Pennsylvania 85	Alabama 82	California 70
Printing and Publishing	1,256	New York 386	Pennsylvania 90	Dist. of Columbia 88	Illinois 79	California 75
Leather and Leather* Products	566	Maine 143	Wisconsin 64	Michigan 50**	Massachusetts 39	New York 35
Furniture and Fixtures	492	North Carolina 58	Michigan 58	California 42	Indiana 30	Tennessee 30

*Partly estimated.
**State export rankings by the Bureau of the Census; some states' data are not disclosed.

Source: Department of Commerce, Bureau of the Census, Exports from Manufacturing Establishments: 1985 and 1986.

Table 3: Manufacturers' Shipments Related to Manufactured Exports for Selected States by Top Five Sectors, 1986

(in millions of dollars)

	Direct Exports	Export-Related Shipments	Manufacturers' Shipments	Export-Related Shipments as Percent of Total Shipments
Total	$159,376.8	$294,339.5	$2,260,314.6	13.0%
California	17,216.4	31,437.6	224,517.0	14.0
Nonelectric Machinery	4,873.5	6,807.4	21,892.4	31.1
Electric and Electronic Equipment	4,258.6	8,976.6	32,935.1	27.3
Transportation Equipment	2,709.5	3,918.5	36,483.1	10.7
Food Products	1,217.1	1,590.2	32,516.0	4.9
Chemicals and Related Products	844.1	1,346.0	9,929.9	13.6
Indiana	4,787.4	10,348.9	75,670.4	13.7
Transportation Equipment	1,022.0	1,208.0	9,704.2	12.4
Electric and Electronic Equipment	979.4	1,612.0	9,194.0	17.5
Chemicals and Related Products	943.6	1,206.2	6,895.5	17.5
Nonelectric Machinery	676.7	1,055.9	6,554.4	16.1
Primary Metals	285.7	2,775.3	12,568.7	22.1
Virginia	2,704.0	5,083.4	47,346.0	10.7
Chemicals and Related Products	780.8	1,170.7	5,435.4	21.5
Tobacco Products	551.8	657.7	4,517.8	14.6
Nonelectric Machinery	261.5	377.8	2,056.1	18.4
Electric and Electronic Equipment	248.6	733.4	4,415.2	16.6
Food Products	232.1	312.8	6,748.9	4.6
Alabama	1,684.9	4,409.9	36,537.2	12.1
Transportation Equipment	273.3	329.0	2,478.5	13.3
Chemicals and Related Products	241.2	553.9	3,307.6	16.7
Food Products	222.6	287.7	3,836.0	7.5
Electric and Electronic Equipment	163.2	509.4	2,152.5	23.7
Paper and Paper Products	143.1	440.2	3,820.1	11.5

Source: Department of Commerce, Bureau of the Census, Exports from Manufacturing Establishments: 1985 and 1986.

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Table 4: International Budget Appropriations and Overseas Offices by State, 1988

State	International Budget	Percent for Export Promotion	Percent for Investment Attraction	Number of Overseas Offices*	Japan Office*	Othe Asia Offic
Alabama	$1,330,000	63%	37%	4	Yes	Yes
Alaska	1,500,000	n.a.	n.a.	4	Yes	Yes
Arizona	341,800	n.a.	n.a.	1	No	Yes
Arkansas	500,000	37.5	50	3	Yes	Yes
California	10,450,000	50	separate	3	Yes	No
Colorado	700,000	n.a.	n.a.	2	Yes	Yes
Connecticut	800,000	60	40	2	Yes	No
Delaware	240,914	50	50	2	Yes	No
Florida	2,300,000	60	40	4	Yes	Yes
Georgia	1,913,000	24	46	4	Yes	Yes
Hawaii	286,596	n.a.	n.a.	2	Yes	Yes
Idaho	160,000	50	0	1	No	Yes
Illinois	2,900,000	50	50	7	Yes (2)	Yes
Indiana	1,075,945	45	55	5	Yes	Yes
Iowa	1,400,000	50	19	3	Yes	Yes
Kansas	500,000	80	separate	2	Yes	No
Kentucky	1,100,000	10	90	2	Yes	No
Louisiana	471,000	n.a.	n.a.	2	Yes	Yes
Maine	150,000	100	0	1	No	No
Maryland	1,900,000	100	0	3	Yes	Yes
Massachusetts	835,500	n.a.	n.a.	3	Yes	Yes
Michigan	2,275,000	100	0	4	Yes	Yes
Minnesota	1,900,000	50	10	8	Yes (2)	Yes
Mississippi	500,000	40	40	3	Yes	Yes
Missouri	1,100,000	40	60	3	Yes	Yes
Montana	100,000	n.a.	n.a.	2	Yes	Yes
Nebraska	n.a.	n.a.	n.a.	none		
Nevada	297,000	10	90	1	Yes	No
New Hampshire	7,000	50	50	none		
New Jersey	4,718,000	60	40	1	Yes	No
New Mexico	94,000	40	30	none		
New York	3,300,000	50	50	5	Yes	No
North Carolina	1,600,000	50	50	4	Yes	Yes
North Dakota	n.a.	5	95	1	Yes	No
Ohio	2,800,000	80	20	3	Yes	No
Oklahoma	1,250,000	40	50	4	Yes	Yes
Oregon	2,260,000	70	30	3	Yes	Yes
Pennsylvania	820,000	28	70	3	Yes	No
Rhode Island	295,000	20	60	2	No	Yes
South Carolina	595,000	50	50	2	Yes	No
South Dakota	51,100	75	25	none		
Tennessee	304,000	100	0	none		
Texas	398,503	75	25	3	Yes	Yes
Utah	1,055,000	30	35	3	Yes	Yes
Vermont	18,000	100	separate	2	Yes	No
Virginia	1,500,000	20	80	3	Yes	Yes
Washington	1,940,000	n.a.	n.a.	1	Yes	No
West Virginia	n.a.	n.a.	n.a.	none		
Wisconsin	1,300,000	40	60	4	Yes	Yes
Wyoming	300,000	70	10	1	No	Yes

*As of September 1989

Source: Adapted from National Association of State Development Agencies, State Export Program Database, July 1988.

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JEI

REPORT

A Two-Part Report: A and B

No. 35B
September 15, 1989

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Kaifu Visits Washington

Prime Minister Toshiki Kaifu and President Bush appear to have forged a new friendship during the Japanese leader's September 1-2 visit to Washington, but even their rapport may not dissipate building trade tensions. The two leaders, who conferred with each other on a first-name basis, concurred that greater bilateral coordination on international issues is necessary. However, they remained divided over which economic and other factors continue to fuel the U.S.-Japan trade deficit. This disagreement, coming on the eve of the structural impediments initiative talks that began September 4 in Tokyo, may foreshadow rough sledding in bilateral trade negotiations (see note in this issue).

treaty simply as a negative inheritance from the LDP government, I'm doubtful that it can survive the harsh realities of international politics," the Komeito leader declared.

Mr. Yonezawa emphasized that an opposition coalition government would not necessarily mean a "JSP government." "A coalition platform . . . is something that [the opposition parties] create anew to win public support," the DSP leader stated. "We're dissatisfied that the JSP seems to be confusing what it wants to do under a JSP government with its coalition policies." Mr. Yonezawa added that his party has not been hoodwinked by the JSP's recent change in position. The Socialists will face problems if they accept the SDF and the security treaty merely in order to strike a compromise with the other opposition parties, he stated.

In addition to differences with the DSP and Komeito, Ms. Doi appears to have divisions within her own ranks -- a development that could hamper the JSP's hopes for the realization of a lower house electoral victory. Masahi Ishibashi, former JSP chairman, announced he will retire from politics to protest his party's decision to field an unprecedented 180 candidates in the lower house elections. Mr. Ishibashi, who led the JSP when it incurred major losses in both Diet houses in the 1986 elections, contends that, given Japan's multi-seat electoral districts, such a strategy actually will result in greater Socialist losses since it will force some JSP candidates to run against each other in certain districts. By forcing JSP candidates to campaign against other opposition party candidates as well, this approach will exacerbate further relations with the DSP and Komeito.

Despite Mr. Ishibashi's dramatic announcement, Ms. Doi remains committed to launching the JSP's 180-candidate juggernaut. She insists that fielding this many candidates is a critical first step to wresting control of the government from the LDP. Japan's five major labor unions have endorsed this approach and urged the JSP to launch talks with the DSP and Komeito to solidify an opposition coalition before lower house elections formally are called.

In this regard, Hiroshi Mitsuzuka, former trade minister and chairman of the LDP policy affairs research council, indicated August 31 that it would be desirable to dissolve the lower house following approval of the FY 1990 budget during an ordinary Diet session to be convened at yearend. The Kaifu administration and the LDP favor convening a 60- to 70-day extraordinary Diet session October 2 or 3 to consider a package of political reforms as well as revisions to the controversial consumption tax. At JEI press time, the ruling party had yet to reach an agreement with the opposition parties on convening the extraordinary session.

Barbara Wanner

Initial FY 1990 Budget Requests Up

Initial funding requests of Y35.1 trillion ($250.7 billion at Y140=$1.00) by all Japanese agencies for the year beginning April 1, 1990 show a rise in discretionary central government spending of 3 percent over the initial budget for FY 1989. Due to sharply higher debt service costs and other mandatory expenditures, however, the preliminary overall general account budget is up 11.4 percent to Y67.3 trillion ($480.7 billion). The government's Fiscal Investment and Loan Program, a second capital budget, shows strong growth of 27.5 percent at this point in the budget process and totals just over Y41.1 trillion ($293.6 billion). Despite these increases, the government sees public spending as having a neutral impact on the economy.

From an overall standpoint the biggest gainer in the initial fiscal plan for FY 1990 is debt service (see Table 1). The 37.5 percent jump in the cost of servicing the outstanding government debt is misleading, however. The actual costs of interest payments will remain about the same as this fiscal year, currently estimated at approximately Y11.1 trillion ($79.3 billion). In line with some new laws the Ministry of Finance will allocate Y3.2 trillion ($22.9 billion) in FY 1990 to the debt consolidation fund to redeem some of Tokyo's huge outstanding debt, which is projected to reach Y161 trillion ($1.2 trillion) by the end of March 1990. Finance also is counting on using an anticipated general account budget surplus for FY 1989 of approximately Y1.8 trillion ($12.9 billion) to help reduce the debt, further swelling the debt service category.

Table 1: Initial FY 1990 Fiscal Plan
(in billions of yen)

	Initial FY 1989 Budget	FY 1990 Request	Change
General Account			
Discretionary Expenditures	Y34,080.5	Y35,110.1	3.0%
Defense	3,919.8	4,168.8	6.4
Official Development Assistance	756.0	833.3	10.3
Debt Service	11,664.9	16,044.7	37.5
Transfers to Local Governments	13,368.8	14,869.8	11.2
Social Infrastructure	1,300.0	1,300.0	0.0
Total	60,414.2	67,324.7	11.4
Fiscal Investment and Loan Program	32,270.5	41,150.0	27.5
Public Works	26,340.5	30,350.0	15.2

Sustained economic growth has benefited government revenues at the national and the local levels. Tokyo is required by law to transfer 32 percent of the receipts from three national taxes -- personal and corporate income taxes and liquor taxes -- and varying shares of the remaining revenues from commodity taxes and tobacco taxes to local governments. These transfers are expected to grow a sharp 11.2 percent next fiscal year. As it has for the past several years MOF will devote Y1.3 trillion ($9.3 billion) of the proceeds of the sale of government-held shares of Nippon Telegraph and Telephone Corp. to social infrastructure projects.

Continuing the tight-budget pattern of previous years, spending on certain areas will be increased in FY 1990 at the expense of others (see Table 2). According to a report to the cabinet submitted by the Finance Ministry, official development assistance in the general account budget will expand 10.3 percent to Y833.3 billion ($6 billion) as several ministries implement environmentally oriented aid programs. Combined with a Y651.5 billion ($4.7 billion) request for the Overseas Economic Cooperation Fund and a Y1.2 trillion ($8.6 billion) request for the Export-Import Bank of Japan (two major lending institutions whose budgets are included in the Fiscal Investment and Loan Program), Japan is making a good start on its commitment to recycle $65 billion to debt-burdened developing countries (see JEI Report No. 28B, July 21, 1989).

Table 2: Initial FY 1990 Budget Requests by Agency
(in billions of yen)

	Initial FY 1989 Budget	FY 1990 Request	Change
Imperial Household	Y5.0	Y3.6	-27.4%
Diet	89.0	90.6	1.7
Court Administration	248.8	252.2	1.3
Board of Audit	11.4	11.6	1.8
Cabinet	12.2	12.4	1.2
Prime Minister's Office	7,528.9	7,818.9	3.9
of which: Defense Agency	3,919.8	4,168.8	6.4
Ministry of Justice	429.7	443.3	3.2
Ministry of Foreign Affairs	466.6	534.6	14.6
Ministry of Finance	1,395.0	1,403.1	0.6
Ministry of Education	4,637.9	4,718.8	1.7
Ministry of Health	10,837.2	11,357.6	4.8
Ministry of Agriculture, Forestry and Fisheries	2,541.4	2,534.1	-0.3
Ministry of International Trade and Industry	695.3	739.7	6.4
Ministry of Transportation	813.6	811.2	-0.3
Ministry of Posts and Telecommunications	25.6	26.0	1.7
Ministry of Labor	487.9	486.9	-0.2
Ministry of Construction	3,750.5	3,759.9	0.3
Ministry of Home Affairs	104.4	105.6	1.1
Total	34,080.5	35,110.1	3.0

Another area of continued higher spending in FY 1990 is defense; the Japan Defense Agency is asking for a 6.4 percent gain to complete the five-year defense plan started in FY 1986. The Ground Self-Defense Force wants a 6.4 percent increase to Y1.5 trillion ($10.7 billion) for, among other things, 30 Type-90 tanks, 73 armored personnel carriers, 50 artillery pieces, 32 SSM-1 surface-to-ship guided missiles and 10 AH-1S Apache antitank helicopters. The Maritime Self-Defense Force has requested Y91.8 billion ($656 million), a 1.1 percent gain, for a second Aegis destroyer, a submarine and 11 P3-C Orion antisubmarine patrol planes and other equipment. The Air Self-Defense Force hopes to buy 11 F-15J Eagle fighters, two CH-47J tranport helicopters, two E-2C early warning planes and more Patriot surface-to-air missiles with its Y1.1 trillion ($7.9 billion) request. Another Y43.6 billion ($311.4 million) is sought to pay Japanese workers at U.S. bases on top of Y166 billion ($1.2 billion) requested to help pay for the direct costs of maintaining U.S. forces in Japan. Spending for military research and development, including the FSX fighter, is penciled in at a 13.2 percent gain to Y104.2 billion ($744.3 million).

Protecting the global environment appears to be a favored theme in the budget for the upcoming fiscal year, with most agencies proposing some projects in this area. The Ministry of International Trade and Industry is asking for Y6 billion ($42.9 million) for research into global warming and development of chlorofluorocarbon substitutes, along with Y290 million ($2.1 million) for domestic and international environmental research. The Science and Technology Agency has requested Y5.6 billion ($40 million) for an earth observation satellite and other projects. The Environment Agency tripled its request for conservation-related activities to Y2.4 billion ($17.1 million). And the Ministry of Transportation is requesting Y188 million ($1.3 million) for research on global warming and air pollution.

These initial requests are only the second stage in the long budget process. From now until December MOF will negotiate with each agency and develop a budget for submission to the cabinet. Although the discretionary spending requests adhere to the cabinet's 3 percent growth ceiling, MOF surely will try to restrain spending wherever possible. In view of the ruling Liberal Democratic Party's weakened domestic political position, politically motivated budget changes are a strong possibility.

Jon Choy

Japanese Bank Giants To Merge

To Americans bank mergers scarcely count as news. At times, customers hardly assimilate a new name resulting from a merger before the bank combines again with another name change. But when two large Japanese commercial banks announced plans to merge August 29, the news was shocking. The linkup was the first significant bank merger in Japan since 1986 when Sumitomo Bank, Ltd. acquired Heiwa Sogo Bank, Ltd., a much smaller institution. The proposed merger, to become effective April 1, involves Mitsui Bank, Ltd. and Taiyo Kobe Bank, Ltd., both among the world's largest banks. It is the largest such combination in Japanese banking since 1973 when Taiyo Kobe itself was formed from the merger of Taiyo Bank, Ltd. and Kobe Bank, Ltd.

The new bank will be the second largest in the world (and in Japan) as measured by assets after Dai-Ichi Kangyo Bank, Ltd., itself the result of a 1971 merger. The new banking concern will have $369.7 billion in assets, making it by this measure almost twice the size of Citicorp, the largest U.S. banking institution. Citicorp, however, has more than twice the employees of the proposed entity.

Analysts found the news of the Mitsui-Taiyo Kobe tie-up startling for several reasons. Although bank mergers have been infrequent in Japan, many experts had expected the pace to pick up as deregulation of Japan's financial markets forces banks to purchase other banks as a means of acquiring the assets, such as additional branches and retail customers, necessary to prosper in the new conditions. But most analysts thought the pairings would be between big institutions and struggling small regional banks valuable to giants in need of customers and branches. Another possibility was mergers among smaller

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REPORT

A Two-Part Report: A and B

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PRODUCTIVITY GROWTH IN JAPAN

Summary

Since productivity is closely related to overall economic growth, few should be surprised to learn that Japanese productivity has come under intense scrutiny, both from outsiders attempting to divine the secrets of Japan's extraordinary postwar economic performance and from Japanese researchers attempting to understand their own economy better.

Most researchers have found they do not need to look far: Japan's extraordinary rate of savings and the accompanying levels of investment explain a large part of the high rate of productivity growth in Japan. However, other factors also have played a role. And broad measures show a puzzling and hotly debated apparent decline in productivity growth during the 1970s and 1980s that has affected the United States, Japan and other industrial countries. In addition, productivity questions are at the heart of several bilateral issues separating Washington and Tokyo.

Productivity in International Perspective

Many experts have wrestled with the question of why Japan's rate of economic growth has been so high during the postwar period. Since Japan's labor force and population have been growing relatively slowly, high real rates of growth in gross national product translate into almost equally high rates of per capita GNP growth.

Of course, fluctuations in employment levels play some role. For example, as unemployment goes up or down over the business cycle, GNP growth rates vary accordingly. But changes in the unemployment rate and related factors are likely to be relatively minor actors over a period of years since the variation is inherently limited. Unemployment in Japan, for example, has ranged between 2 and 3 percent in the 1980s. (Differences in measurement render difficult a comparison of this figure with U.S. rates.)

Given that a greater number of workers is a relatively unimportant factor, increasing productivity in the labor force has been a key to Japanese economic growth in the postwar period. Since the industrialized countries are in roughly the same situation regarding population growth, labor productivity growth rates correspond closely to higher rates of GNP growth. Almost by definition, therefore, Japan, which has had the highest GNP growth rates among the industrialized nations over much of the postwar period, also has had among the highest rates of labor productivity growth among all members of the Organization for Economic Cooperation and Development and consistently has ranked first among the largest OECD members (see Table 1).

Table 1: International Comparisons of Labor Productivity, 1960-88

(average annual growth rate of volume of output per employee in the business sector)

	Starting Year	Through 1973	1974-79	1980-85	1986-88*
Japan	1960	9.7%	3.9%	3.1%	3.0%
United States	1962	2.2	0.9	0.9	1.5
West Germany	1962	5.0	3.6	2.3	2.2
France	1963	5.8	3.1	2.5	2.3
United Kingdom**	1961	3.5	1.1	2.7	1.7
Italy	1960	6.9	2.3	1.4	2.4
Canada	1966	2.8	2.3	1.8	1.0
Average for 20 OECD Countries***		4.4	2.0	1.7	1.8

*OECD estimate.
**Excluding oil and gas extraction.
***All OECD countries other than Iceland, Luxembourg, Portugal and Turkey.

Source: Organization for Economic Cooperation and Development

Table 1 refects labor productivity throughout the economy. Some experts suggest that such figures are suspect because productivity measurements in services, such as retail and wholesale trade, are somewhat unreliable; quality improvements are difficult to measure in some industries. As a consequence,

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productivity measures in the services in the United States, Japan and other industrial countries are said to have a downward bias.[1]

Table 2 shows labor productivity trends for services and manufacturing separately. Probably reflecting at least partly biased measures, the productivity growth rate in services is lower than that in manufacturing in both the United States and Japan. But the growth rate of manufacturing labor productivity is much higher in Japan. As Tables 1 and 2 show, labor productivity growth rates have slowed in recent years. While Japan's rate has dropped more percentage points than most other countries, it consistently still has the highest rate. Conversely, while the U.S. rate has slowed only modestly, it is still among the lowest of all industrialized countries.

Table 2: Labor Productivity by Sector in Japan and the United States, 1960-85

(average annual growth rate)

	1960-73		1974-85	
	Manufacturing	Services	Manufacturing	Services
Japan	9.5%	7.9%	6.1%	2.8%
United States	5.5	3.1	3.0	1.3

Source: OECD

The Effects of High Labor Productivity

Japan's high rate of productivity growth for most of the postwar period has permitted it to avoid bitter choices between higher wages and rising profits. With the total output per worker increasing -- another way of expressing labor productivity -- the rising tide has lifted all the boats. Although real wage gains have been substantial, they lag behind the rate of productivity growth (see Table 3). As a result, corporate profits probably have benefited.

Table 3: Labor Productivity and Wage Gains in Japan's Manufacturing Sector, 1975-88

(average annual growth rate)

	Labor Productivity	Nominal Wages	Real Wages
1968-74	9.3%	18.8%	8.2%
1975-80	8.6	8.3	1.7
1980-84	3.9	4.2	1.3
1985	4.4	3.1	1.0
1986	1.8	1.5	1.1
1987	5.8	1.7	1.9
1988	11.5	4.5	4.0

Sources: Japan Productivity Center and Ministry of Labor

[1] See Thierry Noyelle, "Productivity in Services: How Wrong Are the Published Numbers?" Presentation to WEFA Quarterly Service Meeting, Philadelphia, Pennsylvania May 18, 1989, and personal communication.

With the rapid appreciation of the yen that began in 1985, many Japanese economists have argued that this process was likely to stall. The surging currency implied that prices in export markets would have to be higher, leading to sales drops and lower profits. As export firms cut back, the weakness overseas would spread into the domestic market, pulling it down as well. Since the process would occur rapidly, firms would have little chance to adjust capacity. With some of their production facilities idled, productivity would be lower unless workers were released, an unlikely prospect. Yet wage earners, conditioned by years of rapid gains, were unlikely to accept wage cuts that would help restore at least some of the competitiveness lost in overseas markets. In short, according to this view, Japan appeared about to join other industrial countries whose rising unit labor costs reflected sluggish productivity growth and rising nominal wages. Coupled with weak demand in domestic and overseas markets, these factors were likely to lead to higher unemployment, an ailment common to other industrial countries but one that Japan heretofore largely has avoided.

In 1986 the scenario appeared to be playing out as envisaged. Japan recorded a relatively measly 2.5 percent real GNP growth, productivity actually declined by some measures, and unemployment rose. But in late 1986 the economy hit bottom and began recovering, according to the judgment of the Economic Planning Agency. As domestic demand expanded in 1987 and 1988, productivity growth picked up, in part a consequence of fuller capacity utilization. Wage increases continued to be moderate, leading to declining per unit labor costs. Despite a recent uptick in wage gains, this new, more positive pattern of per unit cost has prevailed at least through the early part of 1989 (see Table 4).[2]

The result has been that falling per unit labor costs -- in addition to falling raw materials prices, strong overseas markets and other factors -- have played a role in the ability of Japanese firms to cope successfully with the high yen. (See JEI Report No. 4A, January 27, 1989.) According to the most recent available U.S. Bureau of Labor Statistics survey of 14 countries, the United States had good years in 1987 and 1988 in containing labor costs in manufacturing; the costs actually dipped 1.5 percent in 1987 and rose a modest 0.9 percent in 1988, among the best recorded by the survey group, which included two North American nations, nine in Europe and three in Asia. But Japan's record was even better, topping all the surveyed nations. Japan's per unit labor costs measured in yen fell 5.1 percent in 1987 and another 2.1 percent in 1988. In dollar terms, of course, Japanese costs increased substantially, a consequence of the soaring yen. However, in 1989 Japan stands a good chance of having both falling per unit yen-denominated labor costs and a weaker currency; the effect would be to reduce costs substantially as measured in dollars.

Since 1987 a substantial part of productivity advances can be accounted for by economic recovery: using existing workers and plant capacity more fully, hiring previously unemployed workers and attracting new entrants to the labor force. As argued above, these means of boosting productivity are inherently limited. For the longer term, and for Japan to demonstrate that it can continue to grow at world-champion rates, additional factors will have to come into play. Many of these have been important in the past and are likely to be so in the future. Of these, the most important is capital accumulation.

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[2] On this point see Ministry of Labor, Heisei Gannen Rodo Hakusho (1989 Labor White Paper [in Japanese]). (Tokyo: Nihon Rodo Kyokai), pp. 105-106.

The Role of Investment in Labor Productivity Growth

If an army of robots were to be purchased by a firm that knows how to use them, thus replacing many workers and leaving only a handful of employees, then measured labor productivity in the factory would jump. Replicated throughout the economy, such measures would lead to an increase in overall labor productivity.

Robots are a type of equipment spending. For most of the postwar period Japan has had extraordinary rates of spending on plant, equipment and other types of investment (see Table 5). In the 1980s plant and equipment spending relative to GNP has been at least 30 percent higher than in the United States. Similarly, the most recent comparable data show that 11 percent of Japanese gross domestic product in 1987 was devoted to gross investment in machinery and equipment. The comparable figure for the United States was 6.8 percent. According to the most recent OECD data, Japan devoted more of its GDP to this kind of investment than any other OECD country in the mid-1980s. (For details on plant and equipment spending in Japan see JEI Report No. 15A, April 14, 1989).

Table 5: Historical Trends in Gross Domestic Investment in Japan, 1930-86

(percent of gross national product or gross domestic product)

	Series A*	Series B**	Plant and Equipment**
1930-34	13.0%		
1935-39	18.3		
1940-44	18.0		
1946-49	13.2		
1950-54	24.6		
1955-59	29.3		
1960-64	38.4		
1965-69	35.7	33.8%	
1970-74	38.7	37.5	18.7%
1975-79		31.5	14.8
1980-84		30.0	15.3
1985-87		28.6	16.3

*Percent of GNP.
**Percent of GDP.

Note: The data in the first two columns refer to total investment, including that in the public sector and inventory investment by the private sector as well as the private plant and equipment investment shown in the third column.

Sources: Kazuo Sato, "Saving and Investment" in The Political Economy of Japan Volume I: The Domestic Transformation, Kozo Yamamura and Yasukichi Yasuba (eds.) (Stanford, California: Stanford University Press, 1987), p. 138 and the sources cited therein. For plant and equipment data and 1980-87 data, Economic Planning Agency.

With a high percentage of its output going to equipment spending, Japan clearly has had a leg up compared to other industrial countries in expanding labor productivity. As capital flows from Japan have increased during the 1980s, other countries increasingly have benefited from Japan's high internal rate of savings, which are one of the causes of high rates of investment there. According to the Bureau of Economic Analysis, capital flows into the United States have varied between one sixth and one quarter of gross private domestic investment in the late 1980s. With Japan accounting for as much as half of the current account imbalance -- and the investment flows that accompany it -- the direct and indirect role of Japanese savings in financing the expansion of plant and equipment spending in this country is evident.

While the American economy clearly derives many benefits from this Japanese money, the flow of funds from Japan is unlikely to even out rates of capital investment in the two countries. Absent a change in U.S. or Japanese fiscal policies or savings rates, the Japanese current account surplus would have to widen dramatically to accommodate the larger capital flows from Japan required for equal rates of investment in the two countries, something few on either side of the Pacific expect and even fewer advocate. With investment closely tied to labor productivity gains, this argument suggests Japan will probably continue to enjoy higher rates of growth in labor productivity than the United States.

Other Factors Affecting Productivity

Japan's superior productivity performance surely is not due to investment alone. Technology is one additional factor. New production techniques may be introduced along with investment, as in the case of robots. However, technological change need not come bundled with additions to the capital stock. During most of the postwar period Japan has been an importer of technology from the United States and other industrial countries. This factor could account for a substantial growth in output above and beyond what is accounted for by a growing labor force and high investment levels.

Government's role in enhancing productivity is not clear a priori; some experts believe the growth in productivity during the postwar period in Japan occurred despite efforts by Tokyo to slow down the rate of change in the economy, which would have had adverse implications for advancing productivity.

But many believe that government has been a positive factor for speeding the rate of technological change and the rate of productivity growth. In this view, Tokyo creates a positive climate for productivity-enhancing activity, thereby helping firms adopt new technology and develop new products, and in the process pushing productivity ahead faster than otherwise would be possible. For example, protectionist policies in the postwar period are said to have given Japanese firms an opportunity to boost productivity.[3] Conceivably, the government-business partnership could play its role primarily by boosting the capital stock, either directly or by actions that make capital formation more profitable. But, if the economy is affected in this way, then policymakers should feel free to choose from a menu of well-known choices to accomplish the goal of more investment spending, not necessarily choosing a more cooperative government-business relationship as the means toward that end. The government-business partnership hypothesis is most interesting if it turns out to explain productivity growth separately from any influence that capital accumulation might have.

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[3] For a recent expression of this view, see Giovanni Dosi, Laura D'Andrea Tyson and John Zysman, "Trade, Technologies, and Development: A Framework for Discussing Japan," in Chalmers Johnson, Laura D'Andrea Tyson and John Zysman, ed., Politics and Productivity: How Japan's Development Strategy Works (Cambridge, Massachusetts: Ballinger Publishing Company, 1989), pp. 3-34.

Federal Reserve Bank of Chicago economist David Alan Aschauer has identified a quite different, but equally positive, explanation of the role of government that has implications for the difference in productivity growth between the United States and Japan.[4] His data strongly suggest that productivity is related to U.S. government spending on public facilities. He also did a rough international comparison of the relationship of productivity to public investment. According to Mr. Aschauer's calculations, for the period 1973-85 Japan spent more (5.1 percent of gross domestic product) on public investment than any of the other seven largest industrial countries and obtained the largest increase in labor productivity, 3.3 percent per year. The United States spent less than any other country (0.3 percent of GDP) and had the lowest rate of labor productivity growth, 0.6 percent. Furthermore, the remaining countries (Canada, United Kingdom, Italy, France and West Germany) showed the same pattern; those that spent more on public investment had higher rates of labor productivity growth. Italy, which spent more on public investment relative to gross domestic product than France or West Germany, was the only country proving an exception to the pattern but only insofar as those two countries were concerned. Given the apparent relationship between public investment and productivity in the United States and high public investment and high labor productivity growth rates in Japan, Mr. Aschauer's results suggest the possibility that a portion of the relatively high rates of productivity growth in Japan results from government investment spending.

For U.S. policymakers the implications of Mr. Aschauer's data and conclusions, if they hold up under closer scrutiny, are revolutionary. Rather than reduce the size of government, as Reaganomics taught, Washington should expand it, albeit selectively to focus on spending related to investment, rather than government consumption. The problem, for example, is not high taxes stifling initiative but clogged freeways preventing productive employees from getting to work. In addition to touring Toyota Motor Corp. plants, U.S. policymakers visiting Japan should absorb the lessons of the high-speed rail network in Japan of bullet trains, or Shinkansen. As it has expanded over the years, the Shinkansen has reduced travel times dramatically, permitting, among other things, easy one-day business trips between Tokyo and such business centers as Sendai, now only two hours north of the capital. (Japan, of course, still has unexploited opportunities for productivity-enhancing public investment. Thousands of white-collar Tokyo commuters arrive at work apparently none the worse for wear and tear from the crowded subways.)

[4] David Alan Aschauer, "Is Public Expenditure Productive?" Journal of Monetary Economics 23 (1989), pp. 177-200. See also "Rx for Productivity: Build Infrastructure," Chicago Fed Letter, No. 13, September 1988.

Total Factor Productivity

One way to examine the question of the relative roles of investment as well as other factors is to look at a concept called total factor productivity. While various approaches are possible, the essence is always the same: how much would output have grown in the absence of growth in the labor force and capital stock? Because total factor productivity is calculated as the residual growth of output after taking into account factors such as the above, its value varies considerably depending on how those other variables are measured. The total factor productivity approach does not answer the question of what explains the remainder, but it does establish an approximate upper limit on the amount of productivity improvement likely to be accounted for independently by factors such as a government-business partnership. Table 6 shows some comparative results. The figures vary tremendously, reflecting in part differences in the way labor and capital are measured.

Table 6: Total Factor Productivity Comparisons

(average annual growth rates)

	Japan			United States		West Germany
	Uno	Imamura	OECD	OECD	BLS*	OECD
Through 1973	2.6%	9.8%	6.1%	1.5%	2.2%	2.8%
1973-79	-0.1	2.4	1.8	-0.1	0.5	1.8
1979-86	n.a.	n.a.	1.7	0.0	0.6	0.8

*Manufacturing sector only

Sources: First two columns computed from Kimio Uno, Japanese Industrial Performance (Amsterdam: North Holland, 1987), pp. 167-78, and Hajime Imamura, "Sources of Quality Change in Labor Input and Economic Growth in Japan 1960-1979," Keio Economic Studies, XIX, No. 2 (1982), p. 82. OECD data from Eileen Appelbaum, "Productivity Growth and Employment: A Comparison of the U.S. and Germany." Paper presented to WEFA Quarterly Service Meeting, Philadelphia, Pennsylvania May 18, 1989, Table 1. BLS data from Department of Labor, Bureau of Labor Statistics.

The figures in Table 6 show how fast the economies of the countries described would have grown in the absence of growth in the capital stock or labor force. As such, they should be compared with the actual GNP growth rates during the period shown. Japan's GNP grew at a 4 percent annual rate between 1973 and 1979 but, according to the figures in Table 6, total factor productivity growth was between -0.1 and 2.4 percent per year. Similarly, between 1979 and 1986 annual GNP growth was 3.9 percent and total factor productivity growth, according to the OECD, was 1.7 percent per year. In other words, probably less than half, and perhaps none, of the economic growth in Japan during this period was accounted for by residual factors. Similar calculations for the United States and West Germany show that total factor productivity was even less important as a source of growth in the United States than in Japan, but somewhat more important in West Germany.

Some researchers have attempted to discover biases in the data presented in Table 6 that might be skewing the results. For example, Kimio Uno of the University of Tsukuba incorporated the possibility that the capital stock measurement employed in the studies such as those summarized in Table 6 may not necessarily make sufficient allowance for the fact that, at least until recently, the capital stock was getting older, with negative implications for total productivity. Mr. Uno found that this factor shaved as much as 0.6 percentage point off the rate of growth of output during the period 1956 to 1980 in Japan.[5] This suggests that the reported rates of total factor productivity increase are higher than those reported in Table 6.

But capital stock is not the only factor that might be improperly measured. Over long periods of time, the labor force has become more educated. In addition, as young workers replace retirees and continuing workers become more experienced, the level of productivity will change. Figures from Hajime Imamura of Keio University suggest that these factors together contributed 0.4 percentage point annually to the growth in output in Japan between 1960 and 1979, the period that he studied.[6] If he is right, some portion of the increase in total factor productivity should be reassigned to labor force changes, reducing the residual. Mr. Imamura's figures as reported in Table 6 reflect this adjustment.

Incorporating these factors into Mr. Uno's results leaves the figures almost unchanged since the two effects offset each other. The same changes boost the rate of increase in total factor productivity as measured by Mr. Imamura because the effect of aging capital is assigned to the capital variable rather than to the residual. Overall, the effects would increase the reported values for Japan in Table 6 by 0.6 percentage point or less per year.

Even after taking account of these adjustments, two conclusions stand out.

- The rate of total factor productivity growth in Japan is small, particularly in recent years, considering the rate of economic growth during the period.

- For this reason, Japan's high rate of investment is probably of overwhelming importance in explaining its high rates of economic and labor productivity growth. Mr. Imamura's figures suggest, for example, that from 1960 to 1979, increases in the capital stock accounted for about two-thirds of Japan's growth in output and an even higher percentage of the increase in labor productivity.[7]

The OECD figures suggest that total factor productivity growth has been faster in Japan than in the United States throughout the period covered. Recall, however, that labor productivity growth rates -- which include the effect of capital accumulation -- are much higher in Japan (see Table 1). This implies that, although Japan's investment spending is not the only cause of its outstanding economic performance, capital spending is probably the most important factor by far, with the remaining determinants (technology imports, indigenous technological development, new technology incorporated in investment, public investment and the government-business partnership) left to explain a fairly small phenomenon.

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[5] Calculated from data in Kimio Uno, Japanese Industrial Performance (Amsterdam: North Holland, 1987), p. 185.

[6] Calculated from data in Hajime Imamura, "Sources of Quality Change in Labor Input and Economic Growth in Japan 1960-1979," Keio Economic Studies, XIX, No. 2 (1982), p. 82.

[7] Ibid.

The Productivity Slowdown

One of Mr. Aschauer's objectives was to explain the so-called productivity slowdown: for the United States, which has the best data, the rate of total factor productivity growth fell from 2 percent per year between 1950 and 1970 to 0.8 percent per year between 1971 and 1985 and to 0.7 percent between 1981 and 1985.[8] The data in Table 6, while different from Mr. Aschauer's, show the same pattern, not just for the United States, but for West Germany and Japan as well. In addition, crude updates using the same data sources and approximately the same techniques employed by Mr. Uno in the study cited in the table, show a continuing pattern. On this basis, total factor productivity in Japan grew at a 1.4 percent annual rate between the 1976-78 average level and the 1979-81 average level but fell to 0.5 percent between 1979-81 and 1982-84 and again to 0.4 between 1982-84 and 1985-87. (These figures should be used to compare changes in the rate of increase over time and not with U.S. figures or with the data in Table 6.)

The apparent slowing of Japan's rate of total factor productivity growth may be the result of exhausting previously fertile means of boosting productivity. For example, with Japan now at least approaching the technology frontier in many industries, the gains from importing technology from abroad may have fallen significantly. A slowdown in productivity-boosting rural-urban migration may have played a role. Dropping rates of investment in the 1970s and -- at least until recently -- in the 1980s may have slowed the introduction of new technology. At the same time, the results raise a question of whether Japan has unexploited opportunities to boost total factor productivity. Ironically, considering America's own mediocre record on boosting total factor productivity, Washington argues that Japan in fact is rife with just such opportunities.

Productivity as a Trade Issue

For the United States the question of Japanese productivity is important partly because allegedly low productivity in certain sectors in Japan affects opportunities for U.S. exporters. For example, agriculture is never far from the top of the agenda of Washington's gripes with Tokyo. Chief among such complaints is that Japanese farming is relatively unproductive and heavily protected. Similarly, the United States argues that the distribution system, particularly the wholesale and retail trade industries' portion, is very inefficient, raising prices to Japanese consumers and hamstringing the efforts of U.S. and other foreign firms to penetrate the Japanese market. Washington also apparently believes some parts of the enormous Japanese construction industry are inefficient. The United States has negotiated with Japan over access to this market on the grounds that U.S. firms are competitive suppliers of at least certain kinds of construction services but, at least until recently, have been given inadequate access.

[8] Aschauer, op. cit., pp. 194-95.

Japan's Economic Planning Agency could not agree more, at least on the question of relative inefficiencies. In its 1988 economic white paper EPA found that the agriculture, trade and construction industries generally were far less efficient in Japan relative to manufacturing than they were in the United States and West Germany (see Table 7). Such figures, of course, have to be interpreted carefully. Some American travelers to West Germany find the level of retail services very low compared to the United States; labor savings come at the cost of quality, according to this argument. Conversely, Japanese buyers get something for their money in retail trade. Small, and no doubt very inefficient, restaurants dot the Japanese urban landscape, offering unsurpassed levels of service. Retailers often provide extremely quick turnaround on goods out of stock and after-sales service is exceptional by U.S. standards.

Table 7: International Comparisons of Sectoral Productivity

(percent of 1978-85 average productivity relative to manufacturing)

	Primary Industry	Construction	Wholesale and Retail Trade
Japan	32.4%	85.3%	63.5%
United States	39.7	100.4	134.3
West Germany	74.9	78.7	66.9

Source: Economic Planning Agency

Despite these considerations, most experts acknowledge the relative inefficiency of many nonmanufacturing industries in Japan. To the extent the figures on these sectors are meaningful, they suggest that resource reallocation would benefit Japanese productivity more than comparable measures would add in the United States. If workers, plant and equipment left agriculture and construction for manufacturing, for example, the same levels of output might be possible in those sectors even while output in manufacturing increased.

But the presence of productivity differentials in the Japanese economy does not necessarily mean that removal of those inefficiencies would narrow the bilateral trade imbalance. For example, the reallocation of resources into manufacturing that would result from reducing the size of the agriculture or distribution sectors could boost Japanese exports of manufactured goods.

Nor would U.S. firms necessarily make a killing in any inefficient sectors. The figures do not mean that productivity in U.S. construction is higher than in Japan, only that construction has higher productivity than manufacturing in this country, while the reverse is true in Japan. True, if all goods and services could be traded internationally and if markets operated perfectly, the United States would end up exporting to Japan those goods and services which it could produce relatively efficiently compared to manufactured goods, whether or not those sectors were absolutely more efficient than their Japanese counterparts. But such an argument overlooks the nature of the goods and services involved. High-rise buildings in Japan, for example, by their nature cannot be imported from the United States; at most, U.S. firms could participate in the Japanese market, where they might encounter whatever encumbrances to productivity bedevil Japanese firms.

Tokyo, of course, makes its own arguments about productivity. It has complained, for example, about the low rate of savings in the United States and the short time horizon of U.S. firms, both of which it argues limit investment and productivity growth in this country.

Conclusion

While some analysts seek the key to Japan's productivity growth in the practices of Japanese firms or government, the reality is much simpler. Although productivity growth in Japan has many sources, Japan's extraordinary rates of savings and capital accumulation have played the major roles. Japan has not escaped a productivity slowdown in the 1970s and 1980s that has been a source of concern in the United States and Western Europe. However, with its rate of productivity growth still high compared to other industrial countries, Japan has avoided some of the difficult tradeoffs that have plagued those areas.

In late 1989 the most immediate question concerning Japanese productivity is whether the pronounced growth in productivity since 1987 that has accompanied the economic recovery is purely cyclical or not. Certainly a portion of that growth in productivity has to be attributed to cyclical factors, such as rising capacity utilization and demand that makes fuller use of employed workers. As Japan nears full capacity utilization and faces incipient labor shortages, future growth will come to depend critically on long-run sources of productivity growth. With the rising rate of investment in 1988 and 1989, one can see the outlines of productivity advances lasting for years. If Japanese industry achieves that trajectory, the economy could enter a new era of sustained high growth, with exports, imports and foreign investment all increasing. Those Americans who worry about Japan's trade surplus might be apprehensive, since such a development would not necessarily reduce Japan's imbalance, and U.S.-Japanese interdependence would both expand and increasingly be on Japanese terms. But those accustomed to viewing this country's Pacific ally as a source of strength to U.S. economic and security interests would welcome such a scenario, especially if the U.S. economy simultaneously shows renewed rigor.

For further information, contact Douglas Ostrom.

Jo Ann Carter provided research assistance.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

Table 4 inadvertently was omitted from page 4 in the text. We regret any inconvenience this may have caused readers. The full table is printed below.

Table 4: Productivity and Unit Labor Cost in Japan's Manufacturing Sector, 1984-89

(change from same period of previous year)

	Nominal Wages	Productivity	Unit Labor Cost
1984			
January-March	4.2%	8.8%	-4.2%
April-June	4.3	8.0	-3.4
July-September	3.6	6.6	-2.9
October-December	3.3	6.3	-2.8
1985			
January-March	3.1	2.7	0.4
April-June	4.0	2.8	1.1
July-September	2.7	0.8	1.8
October-December	2.9	-1.2	4.1
1986			
January-March	3.2	-1.2	4.4
April-June	1.6	-2.1	3.7
July-September	1.3	-1.6	3.0
October-December	0.5	-0.9	1.3
1987			
January-March	1.1	1.3	-0.2
April-June	0.5	2.4	-1.8
July-September	1.7	6.4	-4.4
October-December	2.9	10.0	-6.5
1988			
January-March	4.0	11.1	-6.4
April-June	4.9	9.9	-4.4
July-September	4.1	8.1	-3.6
October-December	4.9	6.5	-1.6
1989			
January-March	5.1	5.5	-0.4

Note: These measurements of productivity and labor costs are different from those shown in Table 3.

Source: Ministry of Labor

JAPAN · ECONOMIC · INSTITUTE

JEI REPORT

A Two-Part Report: A and B

NO. 36B
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Yen Sags Despite Official Efforts

Four years can be forever in currency markets. In September 1985 the world's five leading industrial powers began a concerted effort to drive down the value of the dollar while elevating that of the yen and other industrial country currencies. They committed record billions of dollars to the project and may have succeeded beyond their expectations. The realignment of currencies that resulted has been of historic proportions, with little chance of complete reversal.

But on the eve of the fourth anniversary of the September 22 Plaza Accord, as the Group of Seven industrial countries prepare to meet September 23 in Washington, the fervor for the Japanese currency has cooled considerably, a victim of fickle currency traders and renewed interest by Japanese investors in the U.S. capital market, among other factors. In 1985 the central bankers succeeded in their efforts to light a fire under the Japanese currency, but in 1989 they have spent substantially larger amounts merely trying to keep it warm. Recent currency market responses have been chilly; the yen's mid-September level of Y145 to Y149 to the dollar is considerably lower than the average April value of Y132=$1.00. The latest drops threaten to put the Japanese currency at its lowest level in more than two years.

Data released in early September indicate the extent of the battle waged by the industrial countries' central banks over the late spring and early summer to stabilize the value of the yen and other currencies against the dollar. For example, the Federal Reserve Bank of New York sold $11.9 billion in dollars on foreign exchange markets between May and July in an attempt to increase the supply of dollars and thereby drive down the dollar's price against the yen and other currencies. By comparison, the Fed spent $3.2 billion in support of the yen and other nondollar currencies between August and October 1985.

Similarly, the Bank of Japan reportedly sold $20 billion in dollars in an effort that began immediately after an April 1989 G-7 meeting of finance ministers and central bankers. By comparison, BOJ had spent a reported $3.3 billion in the three months following the Plaza Accord. As evidence of Tokyo's latest intervention, Japan's foreign reserves, which soared as BOJ acquired dollars in exchange for yen in an effort to stem the yen's rise in 1987 and 1988, have plummeted. By the end of August the reserves were down to $88.3 billion, far below their $100.4 billion peak in April, although still above their pre-1988 levels (see Table).

Japan's Foreign Exchange Reserves

(in billions of dollars at end of each period)

	Level	Change From Previous Period
1982	$23,262	$-5,141
1983	24,496	1,234
1984	26,313	1,817
1985	26,510	197
1986	42,239	15,729
1987	81,479	39,240
1988	97,662	16,183
1989		
January	98,177	515
February	98,830	653
March	99,353	523
April	100,361	1,008
May	95,694	-4,667
June	89,462	-6,232
July	88,865	-597
August	88,318	-547

Source: Ministry of Finance

In data released in early September, the New York Fed reported that trading in international currencies in New York came to $128.9 billion a day as of April of this year. BOJ's data showed that currency transactions in Tokyo were $115 billion every trading day. Added to the $187 billion traded daily in London, worldwide transactions in the three largest currency markets totaled $431 billion daily. (This total is overstated to the extent that it double counts trades between these currency centers.) Since the previous surveys in 1986, the Tokyo currency market grew slightly faster than those in the other market centers.

The figures indicate that international currency trading dwarfs other international financial activity. Currency transactions equal to a year's worth of Japanese exported goods are conducted in the Tokyo currency market every week, suggesting that the currency markets are far larger than what is needed to accommodate those trading goods and services. And, as the figures above imply, the actions of private currency traders in the spring of this year were hundreds of times larger than those of the central banks, even though that intervention was at record levels. Central bank actions appear to have been successful on several occasions since 1985, but only when the central bankers avoided going head-to-head with the currency traders. So, while the yen continues to get warm support from the central banks, the cold-shoulder treatment from the currency traders has prevented it from becoming the hot commodity it was four years ago.

Douglas Ostrom

JDA Remains Skeptical Of Glasnost

The Japan Defense Agency's annual report, approved by the cabinet September 12, reiterates the warning issued in last year's study that the Soviet military threat remains serious despite the Kremlin's efforts to reform domestic policies and pursue a more open dialogue with the West. The so-called defense white paper, the 15th in a series of reports issued since 1970, acknowledges that Soviet party leader Mikhail Gorbachev's domestic reforms, or perestroika, and new internationalist diplomacy, or glasnost, represents "the most daring and ambitious attempts in Soviet history."

However, JDA notes that Moscow's domestic reforms so far have not rehabilitated the Soviet economy in any significant way. Reviewing glasnost and Moscow's greater willingness to pursue arms control negotiations with Washington, the white paper emphasizes that the size of both conventional and nuclear military forces of the two superpowers remains massive. Thus, Japan must continue its self-defense buildup under the rubric of the U.S.-Japan Mutual Security Treaty, because it is imperative that "the Western nations . . . continue to make unified defense efforts in order to deter military conflicts and maintain world peace," JDA states.

Japanese defense planners' continued emphasis on the Soviet military threat comes as the 1986-1990 defense buildup plan draws to a close and as deliberations are about to begin on the next five-year defense plan. The substance and tone of the JDA report suggests that defense officials favor a continued, gradual expansion of Japan's defensive roles and missions in close cooperation with the United States. Given the current upheaval in Japanese politics, it will be interesting to see how strongly the defense bureaucracy

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JEI REPORT

A Two-Part Report: A and B

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Japan's Economy Slips A Notch

At first glance the figures suggested that the Japanese economy had taken a terrible spill. Japan's inflation-adjusted gross national product declined at a 3.1 percent annual rate in the April-June 1989 quarter. Furthermore, the largest single GNP component, personal consumer spending, slipped an annualized 5.2 percent from the quarter before, the biggest drop since the disastrous first oil shock was reflected in data for the first quarter of 1974.

Do the numbers mean that Japan's economic expansion, now one of its longest in postwar history, has come to a screeching halt? Probably not. The latest figures are evidence mainly of the dangers of identifying economic trends on the basis of one quarter's data. Over the longer term the Japanese economy continues to look healthy; compared to the same quarter of 1988, GNP jumped a real 4.8 percent.

Japan's Real Gross National Product at Constant (1980) Prices

(in billions of yen, seasonally adjusted, quarterly totals and rates of growth at annual rates)

	FY 1987	FY 1988	July-September 1988	October-December 1988	January-March 1989	April-June 1989
Gross National Product	Y317,589.4 (5.2%)	Y333,936.1 (5.1%)	Y332,443.8 (9.5%)	Y335,266.6 (3.4%)	Y343,077.2 (9.6%)	Y340,380.1 (-3.1%)
Personal Consumption Spending	176,575.8 (4.5%)	184,805.8 (4.7%)	184,590.0 (5.8%)	184,620.7 (0.1%)	188,047.3 (7.6%)	185,559.3 (-5.2%)
Private Residential Construction	19,631.1 (25.6%)	20,998.6 (7.0%)	20,854.4 (26.0%)	22,028.0 (24.5%)	21,601.3 (-7.5%)	20,800.7 (-14.0%)
Private Fixed Nonresidential Investment	61,812.5 (10.0%)	72,890.9 (17.9%)	71,021.6 (18.0%)	73,420.6 (14.2%)	78,390.0 (29.9%)	80,582.0 (11.7%)
Change in Business Inventories	1,274.0 (*)	1,463.1 (*)	2,093.0 (*)	1,496.3 (*)	243.1 (*)	1,823.5 (*)
Government Current Expenditures	28,637.2 (-0.9%)	29,254.2 (2.2%)	29,184.4 (2.7%)	29,376.7 (2.7%)	29,463.0 (1.2%)	29,581.7 (1.6%)
Government Fixed Investment	24,466.8 (10.0%)	24,981.6 (2.1%)	24,734.6 (-7.0%)	24,910.7 (2.9%)	25,144.8 (3.8%)	25,056.2 (-1.4%)
Change in Government Inventories	45.3 (*)	-194.6 (*)	-225.9 (*)	-916.2 (*)	253.3 (*)	404.0 (*)
Net External Sector	5,146.7 (-36.0%)	-263.5 (-105.1%)	191.7 (*)	329.8 (875.2%)	-65.6 (*)	-3,427.3 (*)
Exports of Goods and Services and Factor Income Received	55,415.8 (5.2%)	61,004.9 (10.1%)	60,994.6 (47.2%)	61,381.8 (2.6%)	66,522.8 (38.0%)	64,378.3 (-12.3%)
Imports of Goods and Services and Factor Income Paid	50,269.1 (12.6%)	61,268.4 (21.9%)	60,802.9 (33.4%)	61,052.0 (1.6%)	66,588.4 (41.5%)	67,805.6 (7.5%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

The latest news, while nothing to cheer about, was not as bad as it looked. Once again the principal culprit was the consumption tax introduced April 1, which has been playing havoc with economic data all year. The January-March GNP figures, which showed real growth surging at a revised 9.6 percent rate, had been inflated by anticipatory buying in advance of the 3 percent tax, levied on virtually all goods and services. With those purchases taken out of the April-June period, the quarter-to-quarter GNP growth rate turned negative.

While consumer spending took the biggest hit, virtually all categories of GNP were affected by the introduction of the tax. Plant and equipment investment, up 11.7 percent in the latest quarter on an annualized basis, was sluggish in comparison with the feverish expansion of the first three months of the year. Business inventory investment, usually a small component of GNP, took an uncharacteristically large jump and made almost as large a positive contribution to GNP growth as plant and equipment spending. But this apparently favorable result was a lot less attractive on closer inspection. Firms either rebuilt inventories depleted by feverish customer buying in March ahead of the tax or involuntarily accumulated unsold goods because they underestimated the falloff in consumer spending after the tax went into effect.

The foreign sector shaved 1 percentage point off what otherwise would have been a small positive quarterly GNP growth rate as exports dropped in real terms and imports expanded. This development, while depressing further an already weak domestic economic performance, was welcome given Tokyo's efforts to rein in Japan's external imbalances. However, according to much expert opinion, including that of the International Monetary Fund as reflected in its recent world economic outlook, the downward trend in Japan's current account is likely to reverse in response to the continued weakness of the yen on international currency markets. If so, Japan's inflation-adjusted net export figure probably is poised to turn upward.

Economic Planning Agency officials, among others, profess to be unconcerned about the latest GNP figures. Some experts already are forecasting yet another reverberation related to the consumption tax. In this view, with consumer spending so low in the April-June quarter, purchases in the July-September period are likely to rebound strongly, leading to an exceptional rate of GNP growth for the current period.

Few experts inside or outside government believe that the latest figures seriously threaten EPA's outlook for 4 percent real growth in fiscal 1989, which began April 1. If anything, that figure, which private forecasters had felt was too pessimistic, now looks more realistic.

In short, the quarter-to-quarter GNP figures are likely to resemble a roller coaster for a while longer. And those responsible for the safety of the ride continue to insist -- initial appearances notwithstanding -- that there is little to worry about.

Douglas Ostrom

Labor Shortage Worries Japanese Industry

When Japan's rate of unemployment soared to a historic high of 3.1 percent in May 1987, many Japanese entrepreneurs believed the economy was forging

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U.S.-JAPAN DEFENSE RELATIONS: AN UPDATE

Summary

U.S.-Japan defense relations during the past year have been buffeted by tensions in bilateral economic relations and may be undergoing an important transition. Despite the steady, quantitative increase in Japan's overall defense expenditures and qualitative improvements in its weapons systems, the drumbeat continues on Capitol Hill urging Tokyo to spend significantly more to support mutual security interests in the region. A precedent-setting project to jointly develop and build Japan's new fighter aircraft -- a project U.S. defense planners had hoped would pave the way for greater two-way defense technology transfers -- nearly was killed by critics who charged that the FSX deal would compromise America's industrial base. U.S. officials, who traditionally have resisted any explicit trade/defense linkage in bilateral relations, are finding that this approach may no longer be practicable given current global economic and strategic conditions.

These developments provide an important backdrop as the Japanese government deliberates its FY 1990 defense budget and begins work on the 1991-95 defense program. Despite recent political gains by the neutralist-oriented Japan Socialist Party, Tokyo probably will continue to maintain a 6 to 7 percent average annual increase in defense spending and place priority on upgrading its weapons systems. But it is unclear whether legally Japan can perform some of the burdensharing tasks American legislators have demanded. In terms of weapons procurement, Japanese government and industry, stung by the FSX imbroglio, may opt increasingly for indigenous systems. Japan will remain committed to the security alliance with the United States but may pursue its treaty obligations in a more self-reliant manner.

Economic Tensions Affect Defense Policy

Since Japan's emergence as an economic power in the late 1960s and early 1970s, Washington repeatedly has pressed Tokyo to make greater contributions to support mutual security interests. Japan has not been the only target; Washington has pressed all of its allies to shoulder more of the financial burden of defending the Western alliance. Economic pressures created by its spiraling trade and budget deficits have hamstrung America's ability to continue the exponential increases in defense spending required to satisfy U.S. security activities and commitments.

Given its huge bilateral trade surplus and low defense spending as a percent of gross national product, Japan has been singled out for tough criticism in recent years, particularly by Congress. In fact, as will be discussed below, growing tensions in U.S.-Japan economic relations have affected the security side of the alliance to such an extent that Pentagon officials may no longer be able to justify on purely strategic grounds certain defense cooperation schemes with America's most important Asian ally.

Burdensharing and the Trade/Defense Linkage - For over 20 years American legislators have questioned the extent to which U.S. military protection has enabled Japan's phenomenal economic progress to occur (see JEI Report No. 35A, September 18, 1987). However, as trade irritations between the United States and Japan began to intensify in the 1980s -- and U.S. workers increasingly lost jobs when their products were unable to compete with Japanese imports -- congressional criticism of Japan's defense role grew harsher and legislators became more aggressive in trying to rectify perceived inequities. Japan became one of the prime targets in Capitol Hill discussions concerning contributions to the defense of the Western alliance -- the so-called burdensharing debate.

The crux of the argument, which attempts to link the economic and the defense aspects of the alliance, is that Japan has taken the "savings" from its "free ride" under the U.S. security umbrella and channeled them into commercial success -- to the detriment of American industry and workers. Tokyo, therefore, should use more of its wealth for defense, the argument goes, which would enable the United States to shift more defense monies toward regaining its industrial competitiveness. The implication is that increased defense spending will hurt Japan economically and brake the trade juggernaut.

During the past two years numerous congressional measures have been introduced that seek to change Japan's spending priorities. These run the gamut from proposals that call on Japan to spend 3 percent of its GNP on defense (up from the current 1 percent) to measures that would impose a "defense protection fee" on all products shipped by allies to this country equivalent to the share of GNP that the United States spends on defense minus the percent the exporting ally spends on defense (see JEI Report No. 19A, May 13, 1988).

U.S. defense officials, who have based their calls for increased Japanese defense spending primarily on strategic concerns, contend that the specific trade/defense linkage underlying these measures is flawed. (In fact,

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State and Defense Department officials have for years pursued an implicit linkage strategy "in reverse," contending that Japan's role as a key ally should restrain any tough U.S. trade pressures on Tokyo.) Arguing against the latest Capitol Hill proposals, U.S. defense officials say Japan's defense budget has a rationale of its own based on an assessment of external threats, not on its trade balance with the United States. From a strategic standpoint, they say, it makes more sense to urge Japan to assume certain expenditures to fulfill mutually acceptable defense goals -- the so-called "roles and missions" approach. Moreover, this argument continues, there is no clear-cut evidence to substantiate the contention that greater defense spending would hurt Japan's business and trade performance nor that America's business community would benefit. Other factors affect economic conditions and competitiveness, such as fiscal and monetary policies, corporate strategies, educational achievements, research and development priorities and other microeconomic factors.

The burdensharing argument also implies that as Japan spends more on defense, the United States will be able to cut back. Defense experts charge that this misses the point: both countries will have to do more to meet their responsibilities. "Defense cooperation is not a zero-sum game between the United States and Japan," Gregg Rubinstein, a Washington-based defense consultant, has stressed. "The issue is one of complementarity rather than substitution."

Finally, these proposals do not stipulate exactly how increased Japanese defense monies should be spent. Should Tokyo earmark trillions of yen for defense if it does not have the missions that would justify the expenditures? What would the money buy? Would such a dramatic increase in defense allocations create regional concerns about revived Japanese militarism? What would be the political feasibility of this issue in Japan, particularly now that the Japan Socialist Party, which favors a neutral defense posture for Japan, is enjoying an unprecedented surge in political popularity?

Judging by recent congressional efforts to obtain greater allied contributions to the common defense, legislators have not been daunted by such Defense Department concerns: a package of Japan-targeted burdensharing amendments made its way into the Senate-passed FY 1990-FY 1991 Defense Authorization Act, which is currently in conference committee (see JEI Report No. 31B, August 11, 1989). But unlike the "defense protection fee" and other extreme efforts to use allied defense relations to rectify U.S. economic problems, drafters of this legislation appear to have taken a closer look at Japan's current defense program to discern the areas in which Tokyo can and should do more.

Specifically, legislators appear to recognize the political difficulties Tokyo has, both domestically and regionally, in expanding its defense expenditures significantly beyond 1 percent of GNP. They also appear more open to acknowledging that economic assistance (especially aid to strategically important countries) is a valid contribution to the overall security picture. Thus, one provision of the latest burdensharing package stresses that Japan's official development assistance and military contributions, measured as a percentage of GNP, should equal those of North Atlantic Treaty Organization members by yearend 1992.

In addition, legislators have stipulated that: more foreign aid should be targeted toward the Philippines and non-Asian countries that are strategically important, especially those in Latin America, the Caribbean and the Mediterranean; a greater portion of this aid should be disbursed in the form of untied grants; Japan should consult with security allies when selecting aid recipients; Japan should take greater strides toward achieving Tokyo's pledge to acquire the capability to defend Japanese land, airspace and sea lanes to a distance of 1,000 nautical miles to the south and east; and Japan should buy more off-the-shelf military equipment and weapons systems from the United States.

The burdensharing provisions also require the administration to negotiate with Japan to achieve Japanese security contributions equal to 100 percent of the direct costs of maintaining the U.S. forces that defend the country. (Tokyo currently provides about 40 percent of the $6 billion cost of maintaining U.S. forces in Japan.)

Suffice it to say, the legislation, although perhaps more thoughtfully crafted than previous burdensharing proposals, is not necessarily lenient on Japan. With Japan's defense spending hovering at 1 percent of GNP, its foreign aid expenditures at about 0.32 percent of GNP and the NATO combined figure averaging 3.7 percent (see Table 1), this measure nevertheless would put pressure on Japan to substantially reorder its budget priorities in the next two years.

Table 1: Security Expenditures by NATO Countries and Japan, 1986

(percent of gross national product)

Country	Defense Expenditures	Economic Assistance	Combined Expenditures
United States	6.7%	0.2%	6.9%
NATO Allies			
Belgium	3.0	0.5	3.4
Canada	2.2	0.5	2.6
Denmark	2.0	0.8	2.9
France	3.9	0.7	4.6
West Germany	3.1	0.4	3.5
Greece	6.1	---	6.1
Italy	2.2	0.4	2.6
Luxembourg	0.9	---	0.9
Netherlands	3.0	1.0	4.0
Norway	3.1	1.1	4.3
Portugal	3.2	---	3.2
Spain	2.0	---	2.0
Turkey	4.8	---	4.8
United Kingdom	5.0	0.3	5.3
Non-U.S. NATO-Weighted Average	3.3	0.5	3.7
Japan	1.0	0.3	1.3

Note: Defense expenditures for Spain and Japan use national rather than NATO definition.

Source: House Armed Services Committee, Report of the Defense Burdensharing Panel, August 1988.

Although not strongly objecting to the aid-related provisions, the administration continues to oppose burdensharing proposals that focus on spending as a percentage of GNP. Particularly with regard to Japan, the White House insists that the "roles and missions" approach is the most appropriate way to expand Tokyo's defense role in accordance with regional allied security.

Against a backdrop of persistent trade tensions, however, the distinction between the trade and the defense aspects of bilateral relations has become increasingly blurry to Congress. The burdensharing proposals are not going to go away; if these measures do not survive the House-Senate conference due to administration objections, they are bound to reappear in some other vehicle, such as upcoming defense appropriations bills. As the administration found in dealing with the controversy concerning joint development and production of Japan's new fighter aircraft (FSX), a growing body of policymakers is no longer willing to put security needs and "alliance politics" above U.S. economic interests.

FSX Project and Defense Technology Transfers - An important outgrowth of the burdensharing debate has been a focus on the economic implications of bilateral defense technology transfers. Here, again, legislators and certain administration policymakers are concerned about the longer-term economic implications of military projects ostensibly undertaken to benefit both U.S. and Japanese security needs. Specifically, they are worried that Japanese companies will spin off leading-edge technologies acquired from the United States into commercial applications that will challenge U.S. leadership in certain sectors.

Last year, for example, Congress came close to quashing Pentagon plans to sell the sophisticated Aegis weapons system to Japan. The Aegis system, which integrates various weapons, radar and computers, is to be installed on Japanese naval vessels and is a major element in the Maritime Self-Defense Force's program to insure Japan's "mission" to defend its sealanes out to 1,000 nautical miles. Several legislators tried to block the sale outright; when that tactic failed, they tried to dramatically change the terms of the deal.

Sen. J. Bennett Johnston (D, La.), for one, championed a bill that would have prohibited the sale or the transfer of Aegis or any part of Aegis to Japan "for integration into a naval vessel" unless the ship itself were built in the United States. Coming not long after the disclosure that Toshiba Machine Co., Ltd. had transferred militarily sensitive machine tool technology to the Soviet Union, the Johnston proposal was intended to assure that the Aegis sale to Japan would neither compromise U.S. security interests nor threaten the future of the American shipbuilding industry. Some of Mr. Johnston's colleagues also were worried that Japan would reverse engineer this technology and ultimately pose a competitive threat to U.S. producers. Speaking from the burdensharing mindset, some legislators argued that if mutual security interests indeed would be better served by this sale, then Japan should demonstrate its commitment to shoulder a bigger part of the defense burden by purchasing more of the ship's technology than simply the missile system (see JEI Report No. 30B, August 5, 1988).

Mr. Johnston's attempt to attach his measure to the FY 1989 defense appropriations bill ultimately failed and the bill was killed (see JEI Report No. 31B, August 12, 1988). But the debate not only stayed alive, it accelerated when the United States and Japan began discussions concerning joint development and production of the FSX. In fact, the prevailing view of many defense analysts is that the FSX controversy irrevocably linked trade and defense aspects of U.S.-Japan relations.[1]

Congress had been concerned about the trade implications of the deal during the early stages of negotiations between the Japan Defense Agency and the Defense Department. At that time JDA was leaning toward indigenous development of the new fighter, but some members of Congress were attempting to sway Tokyo to purchase a U.S. plane outright. Legislators became so wary of the potential trade ramifications of the deal that they inserted into the FY 1989 Defense Authorization Act a provision designed to bring the Commerce Department more directly into defense technology transfer negotiations to ensure that adequate attention would be directed toward the project's potential impact on the U.S. industrial base.

However, the debate really began to pick up steam following the November 1988 signing of the memorandum of understanding that would govern joint development of the FSX (see JEI Report No. 21A, May 26, 1989). This agreement, reached after more than a year of protracted negotiations, stated that General Dynamics Corp. would provide Japan with airframe technology relating to its current F-16 fighter. Japan, in return, would provide the United States at no cost any refinements to U.S.-developed technologies already incorporated in the F-16. American companies also would have access on request to any Japanese indigenous technology for a fee. The MOU set the U.S. share of research and development at 35 to 45 percent. It also designated Mitsubishi Heavy Industries, Ltd. as the lead company to design and build the aircraft, with General Dynamics on the American side and Kawasaki Heavy Industries, Ltd. and Fuji Heavy Industries, Ltd. on the Japanese side as the primary subcontractors.

Proponents in the administration had argued the FSX project was the first test under a 1983 agreement governing defense-related technology exchanges. The goal of the agreement was to establish a reciprocal flow between the two countries so that U.S. industry also would benefit from the bilateral defense relationship. Thus, in addition to making a valuable contribution to U.S. and Japanese security needs, administration proponents maintained, the MOU was drafted to ensure that U.S. industry received tangible benefits through access to important Japanese technological advances in areas such as composite materials and phased-array radar.

Capitol Hill was not persuaded. Soon after the new Congress convened in January 1989, legislators challenged Commerce Secretary Robert Mosbacher and U.S. Trade Representative Carla Hills in their respective confirmation hearings to justify the FSX deal on trade grounds. They charged that the agreement amounted to a technology "giveaway" that would support Japanese industrial efforts to build a commercial aircraft industry able to compete head-on with the powerful U.S. sector. Also, the relevant government economic agencies were not appropriately involved in the review process to ensure that long-term U.S. economic interests were protected, legislators maintained. A group of senators also sent a letter to President Bush requesting a "complete review" of the FSX deal before the project was implemented.

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[1] Japan-American Society of Washington Luncheon Program, "Does Economic Competition Undermine Strategic Alliances?" featuring Michael W. Chinw Massachusetts Institute of Technology; Ellen Frost, United Technologies C Ronald Morse, Library of Congress; and Gregg Rubinstein, International nology and Trade Associates, Inc., September 22, 1989, Washington, D.C.

The ensuing dissension within the administration marked an important milestone in U.S.-Japan defense relations in that it effectively forged the trade/defense linkage. Commerce Secretary Mosbacher argued that DOD, State and the National Security Council -- proponents of the FSX deal -- were trying to "steamroll" the agreement through Congress without regard to their statutory responsibility to involve his office in deliberations on projects that affect the U.S. defense industrial base. (Under U.S. law, before any work on a joint defense project can begin, the administration must submit a license application for the proposed technology transfer to Congress, which in turn has 30 days to review it.)

As a result of the outcry, primarily from the economic agencies, the White House asked DOD and Commerce in mid-February to more fully assess the strategic, commercial and technological implications of the FSX project. Interagency squabbling became so intense that President Bush eventually issued a "tentative" approval of the MOU -- pending additional clarifications aimed at safeguarding vital U.S. technology and assuring that American manufacturers would have a fairly substantial share of the work during both the development and the production phases of the project.

This action effectively reopened talks on a project that Japan had regarded as a "done deal." More important in the long term, however, the call for clarifications implied a lack of trust among certain U.S. policymakers over how Japan would implement the FSX agreement. This, in turn, engendered feelings of frustration, resentment and distrust in Tokyo that, as will be discussed below, no doubt has dampened Japan's desire to pursue further joint defense projects. Given the protectionist furor in Congress fueled by the bilateral trade deficit, however, Tokyo grudgingly entered into the clarification discussions.

The agreement that eventually emerged from these talks was announced by President Bush April 28. It included the following points, incorporated as side letters to the original MOU:

- Work share guarantees - The United States is guaranteed "about a 40 percent" share of production in addition to a similar share of the development work. This provision sought to address concerns expressed by some American policymakers that MHI would "take the technology and run;" that is to say, they feared that after development and testing of the FSX prototypes, the prime Japanese contractor would cut U.S. companies out of the important, income-generating production phase of the project and build the aircraft on its own.

- Technology transfer - To address industrial base concerns, Japan will not have access to key U.S. defense technologies, such as the source codes, or computer software, governing the fighter's digital flight control system. Source codes for the mission control (weapons control) computer will be released to the Japanese only to the extent that they need them to integrate their own avionics into the aircraft.

- Technology flowback - There are more explicit guarantees that the United States will have access to Japanese improvements to the F-16 technology.

- Technical steering committee - Unique to defense coproduction agreements, this committee will oversee the development phase of the project and monitor the reciprocal flow of technology and the allocation of work shares.

The panel will be cochaired by officers of the U.S. Air Force and the Japan Air Self-Defense Force but also will include representatives from Commerce and the Pentagon.

Legislators seized on their 30-day review of the export license as an opportunity to tear apart the accord. Sen. Alan Dixon (D, Ill.) May 1 introduced legislation (S.J. Res. 113) disapproving the F-16 technology transfer; Rep. Mel Levine (D, Calif.) followed suit in the House with H.J. Res. 254. Administration policymakers, now united, sought to assure legislators that the "revised" FSX agreement would not undermine U.S. economic and security interests. (See JEI Report No. 21A, May 26, 1989, for a summation of the arguments for and against the deal.)

At the bottom line, the White House succeeded in persuading enough members of the Senate that the project should go through -- but just barely. After heated debate the upper house voted down the Dixon resolution by a close 52-47 vote that cut across party lines. Since disapproval by both houses was required by May 31 to kill the deal, the Senate vote made moot further House action on H.J. Res. 254. (To underscore concerns about the trade ramifications of the FSX project, the lower house June 7 took a purely symbolic action and voted, 320-98, for a resolution to disapprove the F-16 technology transfer.)

However, the White House did not win carte blanche approval of the FSX MOU. Following its action on the Dixon resolution, the Senate passed 72-27 S.J. Res. 123 introduced by Sen. Robert Byrd (D, W.Va.) that, while it backed U.S. participation in the FSX project, imposed certain conditions that must be met during the development and the production phases. The conditions essentially sought to firm up the guarantees included in the side letters concerning delineation of work shares and the transfer to Japan of critical engine technology (see JEI Report No. 20B, May 19, 1989). The House on June 7 approved companion legislation by a 262-155 vote.

President Bush July 31 vetoed this legislation, arguing that the conditions were unnecessary since they already were embodied in the MOU and the side letters. The White House seemed most concerned that the measure would set an unwise precedent by opening the door to greater congressional meddling in defense technology transfers. In his veto statement the president charged that the Byrd resolution violated the constitutionally mandated separation of powers since it would have enabled the legislative branch to intrude on the chief executive's negotiating authority.

Congressional FSX opponents took one final shot at the joint defense project by attempting to override the president's veto. However, the Senate, by a 66-34 tally, failed by one vote September 13 to obtain the two-thirds majority needed to override the chief executive's disapproval (see JEI Report No. 36B, September 22, 1989). Since two-thirds of both houses of Congress must disapprove a presidential veto, the Senate outcome no doubt will preclude further consideration of an override by the House.

Congress' failure to further circumscribe the terms of the FSX agreement means that work on the project can continue without any potential interference. (In June the White House gave General Dynamics and MHI the green light to begin the development phase.) However, the imbroglio stirred up by the deal will have long-lasting effects on bilateral defense cooperation as well as on overall U.S.-Japan relations.

Most important, the reservoirs of support and enthusiasm in both countries for bilateral defense codevelopment/coproduction deals have been seriously depleted. U.S. insistence on renegotiating what both sides initially had regarded as a final agreement naturally has engendered distrust in Tokyo that Washington is not good for its word. Reacting to the razor-slim margin by which the president's veto was sustained, Japanese government officials stated that Japan should adopt a more cautious approach in proceeding with the FSX project, especially in negotiating the separate MOU that will govern the production phase. It is precisely this reaction -- which congressional FSX critics attribute to Tokyo's untrustworthiness and ambition to promote its commercial aircraft industry at the expense of its U.S. counterpart -- that will stir up the debate again in a couple of years (see JEI Report 34A, September 1, 1989). Legislators remain poised to push their way into discussions when U.S. and Japanese officials sit down to negotiate the production agreement.

In terms of U.S.-Japan defense policy, however, this episode has further complicated strategic planning between the two countries. Pentagon officials no longer will be able to consider with their Japanese counterparts mutual defense needs without greater attention to the potential economic impact of these plans. Moreover, the precedent set by the establishment of the FSX technical steering committee means that DOD may no longer monopolize certain aspects of bilateral defense discussions. The trade/defense linkage has been institutionalized. With the FSX deal, Commerce succeeded in getting its foot in the door and can be expected to push for even greater participation in negotiations concerning other high technology transfers.

Defense Industrial Base Concerns - The linkage between defense needs and economic problems also is apparent in legislators' focus on the decline in the U.S. high technology sector -- the industries on which this country's national security strategy greatly depends. Declining competitiveness in key U.S. manufacturing fields, particularly the semiconductor and other leading-edge high technology electronics industries, has forced the Pentagon to rely increasingly on foreign suppliers for defense-related parts and components. This growing foreign dependence has raised concerns about the reliability of supplies and, in turn, the vulnerability of the U.S. military during times of global crisis. More important, it has created alarm that the United States may be losing the ability to stay at the forefront of technological advances considered vital to maintaining a defense capability that is qualitatively superior to the Soviet Union's.

Although Congress and the administration began addressing this issue in earnest last year, concerns about flagging U.S. industrial competitiveness have been percolating for quite a while. In reality, the burdensharing debate and the FSX controversy and other technology transfer disputes grew out of policymakers' recognition that the health of the U.S. industrial base is in trouble. The Defense Science Board, Office of Technology Assessment and certain Pentagon offices, among other groups, have produced reports that all point to the erosion of U.S. industries considered vital to defense preparedness and the increasing dependence on foreign sources to compensate for these weaknesses (see JEI Report No. 24A, June 24, 1988).

Since Japan is the leading source of many technologies, the manner in which this debate plays out is important. Various congressional committees continued their review of the subject this year (see JEI Report No. 28B, July 21, 1989). Although policy options are being deliberated that address domestic factors affecting U.S. competitiveness, as the FSX and Aegis disputes indicate, a growing anxiety concerning America's declining industrial prowess may begin to close the doors on future bilateral technology flows.

There also is a possibility that policymakers increasingly may resort to protectionist measures in an effort to reverse this country's growing dependence on foreign sources for defense-related parts and components. Japanese suppliers of machine tools, bearings, plastic injection molding machines and industrial fasteners already have felt the effect of requests that the U.S. government impose import restrictions to protect key defense industries that are deemed to have suffered trade-related injury. The failed attempt by Fujitsu, Ltd. to acquire Fairchild Semiconductor Corp., a company that produced integrated circuits critical to U.S. defense work, is another example of a protectionist response to problems in American industry. In the same vein, Congress' burdensharing stipulation that Japan make more off-the-shelf defense purchases may be viewed as an effort to preserve markets for U.S. producers.

Impact on Japanese Defense Planning

What impact has the trade/defense linkage in U.S. policy had on Japan's defense planning and programs? Although U.S. defense officials still deplore this approach, even they cannot deny that congressional cries for allied defense spending increases have provided useful bargaining leverage for U.S. negotiators pressing Tokyo for greater military and foreign aid expenditures to meet expanded roles and missions. Indeed, the past five years have seen steady, quantitative increases in defense spending (admittedly, from a very small base) as well as qualitative improvements in weapons systems and armed forces training.

Increases in defense spending of approximately 6 percent annually since FY 1983 have given Japan the sixth- or seventh-largest military budget in the world -- a development that is all the more striking considering the extreme political sensitivity, both nationwide and regionwide, of a greatly expanded Japanese military role. For these reasons, Tokyo often complains that the strides it has taken over the years to satisfy its roles and missions are not appreciated by American legislators who persist in citing the bilateral trade account as evidence that Japan should be doing more.

The 1986-90 Mid-Term Defense Plan - The following summarizes Japan's moves to meet the goals set forth in its 1986-90 Mid-Term Defense Plan. This is the third program undertaken as part of the 1976 National Defense Program, a comprehensive outline that stipulates the level of defense that should be maintained by Japan in peacetime and gives guidelines for the improvement of Japan's military capabilities.

- Procurement - On August 31 JDA requested a 6.4 percent increase in spending for FY 1990, which would bring its budget next year to Y4.16 trillion ($29.7 billion at Y140=$1.00). The agency contends it needs this amount to complete the final year of the 1986-90 plan, which generally has focused on improving and expanding Japan's capabilities in air defense, antisubmarine warfare, ground force response to a manned invasion, and improved command, communications, intelligence and reconnaissance capabilities. Both JDA and DOD believe that if Tokyo can achieve its targets for this plan, it will be able to adequately defend its sealanes out to 1,000 nautical miles, a goal set forth in a 1981 joint communique signed by then-President Ronald Reagan and then-Prime Minister Zenko Suzuki (see Table 2).

Table 2: Attainment of Defense Buildup under National Defense Program Outline

Classification	Outline	FY 1988	Program Completion
SDF Personnel	180,000	189,000	180,000
GSDF			
Units Deployed Regionally			
Divisions	12	12	12
Composite Brigades	2	2	2
Mobile Operations Units			
Armored Division	1	1	1
Artillery Brigade	1	1	1
Airborne Brigade	1	1	1
Training Brigade	1	1	1
Helicopter Brigade	1	1	1
Low-Altitude Surface-to-Air Missile Units (anti-aircraft artillery groups)	8	8	8
MSDF			
Antisubmarine Surface Ship Units for Mobile Operations (escort flotillas)	4	4	4
Antisubmarine Surface Ship Units for Regional District Units (divisions)	10	10	10
Submarine Units (divisions)	6	6	6
Minesweeping Units (flotillas)	2	2	2
Land-Based Antisubmarine Aircraft Units (squadrons)	16	14	16
Major Equipment			
Antisubmarine Surface Ships	60	60	62
Submarines	16	15	16
Combat Aircraft	220	171	214
ASDF			
Aircraft Control and Warning Units	28	28	28
Interceptor Units (flight squadrons)	10	10	10
Support Fighter Units (flight squadrons)	3	3	3
Air Reconnaissance Units (flight squadrons)	1	1	1
Air Transport Units (flight squadrons)	3	3	3
Early Warning Units (flight squadrons)	1	1	1
High-Altitude Surface-to-Air Missile Units (anti-aircraft groups)	6	6	6
Major Equipment			
Combat Aircraft	430	401	415

Source: Japan Defense Agency, Defense of Japan, 1988

The proposed budget breakdown for FY 1990 would allocate Y1.5 trillion ($10.7 billion) to the Ground Self-Defense Force for, among other things, 30 Type-90 tanks, 73 armored personnel carriers, 50 artillery pieces, 32 SSM-1 surface-to-ship guided missiles and 10 AH-1S Apache antitank helicopters. The Maritime Self-Defense Force has requested Y91.8 billion ($655.7 million) for a second Aegis destroyer, a submarine and 11 P3-C Orion antisubmarine patrol planes and other equipment. The Air Self-Defense Force hopes to buy 11 F-15J Eagle fighters, two CH-47J transport helicopters, two E-2C early warning planes and 80 Patriot surface-to-air missiles with its Y1.1 trillion ($7.9 billion) request. Spending for military research and development, including the FSX fighter, is penciled in at Y104.2 billion ($744.3 million), which represents a 13.2 percent increase over this year's level.

As this budget request indicates, Japan has remained committed to expanding and upgrading its weapons systems. For example, the two E-2Cs that ASDF plans to purchase will be used to form a third air early warning unit; 10 E-2Cs comprise the first two AEW units. A third transport helicopter unit will be formed to serve western Japan with the purchase of the two CH-47Js. While the FY 1987 budget broke new ground in funding an over-the-horizon radar site for defense against long-range Soviet Backfire bombers, next year's request includes plans to procure for the first time two EPS-3 fixed, three-dimensional defense radar systems.

MSDF also remains committed to the Aegis system, despite efforts in Congress to block these sales and apparent concerns about the system's effectiveness after its role in the 1988 U.S. Navy's shoot-down of an Iranian commercial plane. Japan's navy continues to praise the system and reportedly plans to buy two more.

Another noteworthy feature of Japan's FY 1990 defense plan is that American defense contractors continue to benefit from Tokyo's military buildup. Japan buys about $1 billion worth of hardware from the United States annually. "Right now we have a good deal," a Pentagon official was quoted recently as saying. "Of the military equipment Japan procures from foreign sources, nearly 100 percent comes from the United States." Indeed, the largest aircraft programs involve joint production, such as the antisubmarine warfare patrol aircraft involving Lockheed Corp. and Kawasaki Heavy Industries, the E-2C developed and produced by Grumman Corp., the F-15J jointly produced by McDonnell Douglas Corp. and Mitsubishi Heavy Industries and the CH-47J, which brings together Boeing Co. and KHI.

As will be discussed below, however, this trend may be changing. Support for indigenous development of defense systems has gathered considerable momentum in recent years, and some defense analysts believe it represents the wave of the future.[2] Support within Japan's defense industry for indigenous development of the FSX, for example, was so strong that were it not for the Japanese government's realization that bilateral relations would have suffered as a consequence, there might not have been a joint project today (see JEI Report No. 21A, May 26, 1989).

- Host nation support - Other line items in the FY 1990 budget are Y43.6 billion ($311.4 million) to pay Japanese workers at U.S. bases as well as Y166 billion ($1.2 billion) to help pay for the direct costs of maintaining U.S. forces in Japan. Under the U.S.-Japan Mutual Security Treaty, Japan provides base facilities for U.S. forces. The bases not only represent the U.S. commitment to Japan's security but they also are critical to speedy U.S deployment in the Asian Pacific arena. Tokyo's spending in this area amounts to approximately 40 percent of the $6 billion cost of maintaining U.S. forces at over 100 military facilities in the Japanese archipelago.

[2] Interview with Michael W. Chinworth, Director of Research, M.I.T.-Japan Science and Technology Program, Center for International Studies, Massachusetts Institute of Technology, September 8, 1989.

As discussed above, burdensharing advocates have zeroed in on this aspect of Japan's defense program. Some legislators believe Japan should bear 100 percent of the direct costs of maintaining U.S. troops on Japanese soil. They substantiate their demand by citing, among other sources, an August 1989 report by the U.S. General Accounting Office. GAO said that, in light of the steep appreciation of the yen against the dollar since 1985, U.S. costs could be cut by $600 million annually if Japan were to assume more of the costs that must be paid in yen, such as utilities, road maintenance, ship repair and so forth.[3]

Tokyo contends that these demands exceed what it legally may do under the 1960 Status of Forces Agreement, which stipulates the costs that the United States and Japan each should bear to support the American troop presence. Citing SOFA Article 24, which provides that "the United States will bear for the duration of this agreement without cost to Japan all expenditures incident to the maintenance of the United States armed forces in Japan" except for certain specified exceptions, Tokyo maintains that payment for utilities and so forth exceeds these statutory limitations. Thus, if the United States wants Japan to bear these additional costs, the SOFA will have to be amended, Japanese government officials insist. And amending the SOFA, which would require Diet action, could open a Pandora's box. The Japan Socialist Party, which historically has not supported the U.S.-Japan security treaty, no doubt would use its stronger Diet presence to insist on a comprehensive review of the entire bilateral defense relationship.

- Joint planning and maneuvers - A marked increase in joint military exercises and strategic planning has enhanced the ability of the two countries' armed forces to operate together. The 1978 "Guidelines for U.S.-Japan Defense Cooperation" set the stage for regular planning discussions to consider joint action in meeting a threat to Japan. U.S. defense experts believe the planning process itself has been of tremendous value in providing each side with a more realistic perception of the other's capabilities.[4]

Joint military training also is on the rise. Although initially these exercises were limited in scope, usually involving only MSDF in maneuvers with the U.S. Navy, all SDF branches now participate in joint training exercises with U.S. forces. The most recent naval drill began September 29 in the Pacific Ocean off Japan. Concurrently, U.S. forces will be engaged in two months of multinational military maneuvers, involving all of America's forces in the Pacific as well as the forces of the Philippines, Thailand and Australia, the so-called PACEX drill. Japan's constitution prohibits it from engaging in "collective security" arrangements, where its defense forces go to the aid of an allied country should that country be attacked by a third party. Thus, Tokyo has been adamant that the U.S.-Japan drills, although on the periphery of PACEX, will be separate and apart from U.S. maneuvers with its other regional allies.

[3] U.S. General Accounting Office, "U.S.-Japan Burdensharing: Japan Has Increased Its Contributions But Could Do More," August 1989, p. 4.

[4] Gregg Rubinstein, "U.S.-Japan Security Relations," The Fletcher Forum, XII, No. 1, Winter 1988, p. 45.

- Official development assistance - Although not formally a part of the mid-term defense buildup, foreign aid has been a part of Japan's overall self-defense plan since the early 1980s when then-Prime Minister Masayoshi Ohira introduced the concept of "comprehensive security." Tokyo has used foreign economic assistance to promote political and economic stability, which, it believes, not only complements its military buildup but offsets the fact that it interprets the constitution as barring Japan from acquiring an offensive capability. Thus, as America's cries for defense burdensharing have become louder, Japan has continued to expand its aid program (see JEI Report No. 25B, June 30, 1989).

Japan's proposed FY 1990 aid budget calls for a 10.3 percent increase to Y833.3 billion ($6 billion), a spending level that in the near future is expected to propel Japan into the number-one spot as the world's leading aid donor. In fact, Foreign Minister Taro Nakayama recently confirmed Tokyo's intent: "Japan is forecast to become the world's number-one donor of aid on a disbursement basis in the near future," he said September 12. "It is contingent upon us to live up to that distinction with effort and ingenuity."

Mr. Nakayama's remarks came as he received a report from the prime minister's office that called on his ministry and other ministries with jurisdiction over foreign aid to strengthen the program. The report, which focused on the loan arm of Japan's official development assistance (grant assistance and technical cooperation constitute the other components of the program), called on the relevant ministries to redouble their efforts to ensure that overseas assistance is "appropriate, effective and efficient."

Congressional burdensharing advocates have urged Japan to spend even more on foreign aid. On the one hand, it must please Tokyo that Washington is beginning to acknowledge the defense-related value of its aid program and the fact that Japan increasingly has targeted this assistance to countries of strategic importance, such as the Philippines, Turkey, Pakistan and Egypt. On the other hand, Japanese officials get frustrated that U.S. legislators do not appear to have a complete understanding of the extent of Tokyo's aid activities. Again, they feel it is unfair to demand that Japan spend more simply because, as a percentage of GNP, Japan's ODA still is only about 0.32 percent. Whether Tokyo's budget can accommodate the sort of increases Capitol Hill is demanding remains to be seen.

Outlook for the 1991-95 Mid-Term Defense Plan - JDA soon will begin work on the next five-year defense plan, which will be presented to the Diet next summer for approval. It is difficult to predict exactly what the plan will include in light of the uncertain political situation in Japan as well as unforeseen economic and external political developments. However, Japanese defense experts predict some of the following:

- Budget and procurement - Tokyo probably will continue annual increases in the defense budget of about 6 to 7 percent; this level still does not risk substantially exceeding 1 percent of GNP, a politically sensitive limit. In addition, it appears that JDA will remain committed to the full gamut of joint defense planning with the United States as well as a qualitative upgrade of its weapons capabilities.

Judging by a variety of reports from Tokyo -- which JDA at this point will not confirm -- there appears to be growing interest in procuring airborne warning-and-control systems (AWACS) from the United States. Following a shift in GSDF priorities away from coastline interdictions to offshore interceptions in the early stages of a conflict, the ground forces reportedly would like to introduce the Multi-Launcher Rocket System. Within the next 20 years GSDF hopes to expand to 1,000 its helicopter fleet, including more than 100 CH-47Js. Other long-range procurements reportedly under JDA review include ASDF's acquisition of aerial refueling tanker aircraft and MSDF's procurement of a light aircraft carrier.[5]

- Indigneous vs. joint development - Perhaps the most significant shift in Japan's defense program in the next five years will be its increasing reliance on indigenous systems to replace and upgrade those formerly purchased from the United States. Although the prospect of commercial spin-offs undeniably has affected Japanese interest in indigenous weapons development,[6] it is important to bear in mind that Tokyo also has a strong interest in developing a home-grown arsenal for national security reasons. All major industrialized countries -- not just Japan -- accept the inefficiencies inherent in building an indigenous defense industry as a necessary "cost of sovereignty."

Moreover, the FSX flap appears to have engendered in Japan such anger and distrust for the United States that the prospects for new joint projects might not look as attractive to Japanese companies. According to Yutaku Amatsu, news editor for Asahi Shimbun in Osaka, the Japanese people believe that the United States broke the original MOU unilaterally, a policy reversal that has sparked considerable dissatisfaction and anti-American criticism. "The United States has lost its tolerance as the leader of the West," Mr. Amatsu stated. "It does not care about tolerance or manners any more in defending its interests."[7] The burdensharing legislation, coming nearly on the heels of the FSX episode, also no doubt has further enflamed Japanese sentiments about th possibility of undertaking new defense ventures with its most important ally.

Even before the FSX controversy reached its height, however, the Japanese government already had announced several development programs, including plans for a new medium-range surface-to-air missile, an antiship missile, a new medium-thrust supersonic jet engine and software for an advanced antitactical missile system.[8] Each program is intended to develop a domestic system to replace one currently supplied by the United States. For example, the medium-range SAM will replace the Hawk developed by Raytheon Corp., which currently is

[5] "Japan Raises Defense Spending To Fund Missile, Aircraft Programs," Aviation Week & Space Technology, March 20, 1989, p. 89.

[6] Richard J. Samuels and Benjamin C. Whipple, Defense Production and Industrial Development: The Case of Japanese Aircraft (Cambridge, Massachusetts: Massachusetts Institute of Technology, M.I.T.-Japan Science and Technology Program, 1989), p. 4.

[7] Yutaku Amatsu, presentation at the Japan-American Society of Washington Program, "Japanese Press Perceptions of U.S.-Japan Relations," September 27, 1989, Washington, D.C.

[8] Chinworth, op. cit.

produced under license in Japan; the antiship missile will replace McDonnell Douglas' Harpoon, of which the guidance system is licensed for production in Japan. Tokyo also reportedly plans to develop an alternative to the U.S.-designed shoulder-fired Stinger antiaircraft missile. What the FSX dispute appears to have generated is additional impetus to this trend. Even American policymakers recognize this: "Our two systems can't stand many more FSX controversies," an administration official was recently quoted as saying.

Conclusion

Economic competition between the United States and Japan has transformed bilateral defense relations. As the FSX episode illustrated, it is no longer possible for defense policymakers to evaluate security needs without consideration of their potential economic impact. But it also is important for American policymakers to recognize that Japan's economic and technological prowess is nudging it toward greater military self-reliance. Thus, although the U.S.-Japan security treaty will remain a pillar of the alliance and Japan will retain its self-defense posture, the bilateral defense relationship may experience some additional "growing pains" as Washington contends with a more autonomous partner.

For further information, contact Barbara Wanner.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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STATISTICAL PROFILE

JAPAN'S ECONOMY IN 1988
AND
INTERNATIONAL TRANSACTIONS OF JAPAN AND THE UNITED STATES IN 1988

Japan Economic Institute 1000 Connecticut Avenue, N.W., Washington, D.C. 20036 202·296·5633

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Table 1: apan's Gross National Product at 1980 Constant Prices, 1984-1988

(in billions of yen, seasonally adjusted, quarterly figures at annual rates)

	1984	1985	1986	1987	1988
Gross National Product	Y278,140.0 (5.1%)	Y291,806.9 (4.9%)	Y299,023.9 (2.5%)	Y312,370.1 (4.5%)	Y330,208.3 (5.7%)
Personal Consumption Spending	157,989.5 (2.7%)	162,326.4 (2.7%)	167,288.1 (3.1%)	174,353.6 (4.2%)	183,105.7 (5.0%)
Private Residential Construction	13,641.3 (-2.0%)	13,981.9 (2.5%)	15,139.9 (8.3%)	18,500.4 (22.2%)	20,985.0 (13.4%)
Private Fixed Nonresidential Investment	46,506.8 (11.5%)	52,408.2 (12.7%)	55,466.6 (5.8%)	59,911.6 (8.0%)	69,516.0 (16.0%)
Change in Business Inventories	1,402.2 (76.2%)	2,365.4 (68.7%)	1,452.9 (-38.6%)	962.9 (-33.7%)	1,766.8 (83.5%)
Government Current Expenditures	26,554.2 (2.8%)	27,011.8 (1.7%)	28,682.3 (6.2%)	28,480.3 (-0.7%)	29,093.4 (2.2%)
Government Fixed Investment	22,405.2 (-2.8%)	20,960.1 (-6.4%)	21,851.5 (4.3%)	23,602.7 (8.0%)	25,152.7 (6.6%)
Change in Government Inventories	167.5 (*)	302.2 (*)	797.9 (*)	23.2 (*)	-152.1 (*)
Net External Sector	9,473.3 (59.2%)	12,451.0 (31.4%)	8,344.8 (-33.0%)	6,535.2 (-21.7%)	741.0 (-88.7%)
Exports of Goods and Services and Factor Income Received	52,351.8 (17.5%)	55,297.5 (5.6%)	52,401.7 (-5.2%)	54,415.0 (3.8%)	58,811.9 (8.1%)
Imports of Goods and Services and Factor Income Paid	42,878.5 (11.1%)	42,846.5 (-0.1%)	44,056.9 (2.8%)	47,879.9 (8.7%)	58,070.9 (21.3%)

(continued)

Table 1: Japan's Gross National Product at 1980 Constant Prices, 1984-1988 (continued)

(in billions of yen, seasonally adjusted, quarterly figures at annual rates)

	January-March 1987	April-June 1987	July-September 1987	October-December 1987	January-March 1988	April-June 1988	July-September 1988	October-December 1988
Gross National Product	Y306,269.9 (5.0%)	Y307,582.7 (1.7%)	Y314,467.6 (9.3%)	Y319,940.4 (7.2%)	Y327,750.6 (10.1%)	Y324,982.8 (-3.3%)	Y332,443.8 (9.5%)	Y335,266.[illegible] (3.4%)
Personal Consumption Spending	171,613.8 (7.1%)	173,092.9 (3.5%)	175,339.0 (5.3%)	176,966.2 (3.8%)	180,839.0 (9.1%)	182,010.8 (2.6%)	184,590.0 (5.8%)	184,620.7 (0.1%)
Private Residential Construction	16,520.3 (10.2%)	17,296.4 (20.2%)	18,947.3 (44.0%)	21,144.4 (55.1%)	21,541.1 (7.7%)	19,682.3 (-30.3%)	20,854.4 (26.0%)	22,028.0 (24.5%)
Private Fixed Nonresidential Investment	57,669.6 (9.7%)	58,746.0 (7.7%)	60,360.3 (11.5%)	62,602.3 (15.7%)	65,130.8 (17.2%)	68,143.0 (19.8%)	71,021.6 (18.0%)	73,420.6 (14.2%)
Change in Business Inventories	156.0 (*)	1,041.2 (*)	957.4 (*)	1,667.2 (*)	1,438.7 (*)	2,043.0 (*)	2,093.0 (*)	1,496.3 (*)
Government Current Expenditures	28,225.7 (-38.4%)	28,617.0 (5.7%)	28,519.8 (-1.3%)	28,570.8 (0.7%)	28,835.0 (3.8%)	28,990.9 (2.2%)	29,184.4 (2.7%)	29,376.7 (2.7%)
Government Fixed Investment	22,482.9 (3.8%)	22,995.2 (9.4%)	23,514.5 (9.3%)	24,825.7 (24.2%)	25,809.5 (16.8%)	25,189.5 (-9.3%)	24,734.6 (-7.0%)	24,910.7 (2.9%)
Change in Government Inventories	313.1 (*)	-48.2 (*)	3.1 (*)	-185.2 (*)	415.9 (*)	119.5 (*)	-225.9 (*)	-916.2 (*)
Net External Sector	9,288.5 (133.4%)	5,842.2 (-84.3%)	6,826.1 (86.4%)	4,349.0 (-83.5%)	3,740.6 (-45.3%)	-1,196.2 (*)	191.7 (*)	329.8 (776.0%)
Exports of Goods and Services and Factor Income Received	53,536.1 (10.1%)	52,687.4 (-6.2%)	55,864.8 (26.4%)	55,666.1 (-1.4%)	57,573.7 (14.4%)	55,377.6 (-14.4%)	60,994.6 (47.2%)	61,381.8 (2.6%)
Imports of Goods and Services and Factor Income Paid	44,247.6 (-4.5%)	46,845.2 (25.6%)	49,038.7 (20.1%)	51,317.1 (19.9%)	53,833.1 (21.1%)	56,573.8 (22.0%)	60,802.9 (33.4%)	61,052.0 (1.7%)

*Cannot be calculated or meaningless.

Source: Economic Planning Agency

Table 2: Major Interest Rates in Japan, 1984-1988

(percent per annum)

					Savings Deposits*			
					Commercial Banks		Post Office	
	Central Bank Discount Rate*	Long-Term Prime Lending Rate*	Call Rate**	Average Interest Rate on Loans and Discounts of All Banks*	Ordinary Deposits	Six-Month Time Deposits	Ordinary Deposits	One-Year Savings Certificates
1984	5.0%	7.6%	6.10%	6.57%	1.50%	4.75%	2.88%	4.0%
1985	5.0	7.2	6.46	6.47	1.50	4.75	2.88	4.0
1986	3.0	6.2	4.79	5.51	0.26	3.01	1.68	2.26
1987	2.5	5.7	3.51	4.94	0.26	2.64	1.68	2.26
1988	2.5	5.7	3.62	4.93	0.26	2.64	1.68	2.26

*End of period.
**Average for period.

Source: Bank of Japan

Table 3: Money Supply in Japan, 1984-1988

(in billions of yen, average for period)

	Outstanding Money Supply (M_2+CDs)*	Change
1984	Y272,360	7.8%
1985	295,183	8.4
1986	320,732	8.7
1987	354,036	10.4
1988	393,667	11.2

*Includes currency in circulation, demand deposits and time deposits (excluding trust accounts) held by commercial banks, plus certificates of deposit.

Source: Bank of Japan

Table 4: Japan's General Account Expenditures (Revised), FY 1984-FY 1988*

(in billions of yen and percent change)

	FY 1984		FY 1985		FY 1986		FY 1987		FY 1988	
Total Expenditures	Y51,513.4	1.3%	Y53,222.9	3.3%	Y53,824.8	1.1%	Y58,214.2	8.2%	Y61,851.7	6.3%
Social Security	9,683.9	4.9	9,830.8	1.5	10,090.3	2.6	10,321.8	2.3	11,801.4	14.3
Public Assistance	1,187.5	5.1	1,082.2	-8.9	1,110.4	2.6	1,105.2	-0.5	1,062.0	-3.9
Social Welfare	2,013.2	5.0	2,056.2	2.1	1,977.8	-3.8	2,033.2	2.8	2,146.3	5.6
Social Insurance	5,619.1	4.5	5,847.5	4.1	6,137.3	5.0	6,310.2	2.8	7,732.3	22.5
Health Services	485.8	11.6	464.4	-4.4	497.2	7.1	512.3	3.0	500.7	-2.3
Unemployment Compensation	378.3	2.3	380.5	0.6	367.6	-3.4	361.0	-1.8	360.2	-1.2
Education and Science	4,920.3	1.8	4,904.3	-0.3	4,886.6	-0.4	5,063.7	3.6	4,982.0	-1.6
Compulsory Education	2,368.8	5.1	2,415.2	2.0	2,414.9	-0.0	2,392.9	-0.9	2,463.5	3.0
Transfer to School Account	1,096.9	8.0	1,075.1	-2.0	1,083.7	0.8	1,180.1	8.9	1,124.4	-4.7
Science and Technology Promotion	374.6	-4.4	375.4	0.2	381.8	1.7	473.5	24.0	426.6	-9.9
School Facilities	427.3	-12.8	385.5	-9.8	350.0	-9.2	354.6	1.3	283.3	-20.1
School Aid	566.6	-4.3	569.6	0.5	575.7	1.1	580.9	0.9	601.0	3.5
Student Loans	86.2	-4.6	83.6	-3.0	80.5	-3.7	81.7	1.5	83.3	2.0
Public Works	6,882.0	-4.7	6,922.3	0.6	6,946.3	0.3	7,428.0	6.9	6,683.0	-10.0
Erosion and Flood Control	1,098.4	-0.8	1,082.8	-1.4	1,101.4	1.7	1,221.9	10.9	1,059.4	-13.3
Road Improvement	1,899.9	0.3	1,856.1	-2.3	1,826.3	-1.6	1,983.8	8.6	1,744.1	-12.1
Harbors and Airports	519.8	-0.8	511.9	-1.5	517.3	1.1	563.7	9.0	497.1	-12.8
Housing	913.9	2.2	927.9	1.5	940.2	1.3	964.4	2.6	930.3	-3.5
Social Infrastructure	980.3	-0.8	970.3	-1.0	989.0	1.9	1,106.1	11.8	942.6	-14.8
Agricultural Infrastructure	892.1	-0.9	879.0	-1.5	886.9	0.9	963.7	8.7	852.4	-11.5
Forestry and Industrial Water Supplies	173.2	-2.2	169.6	-2.1	170.4	0.5	181.2	6.3	163.0	-10.0
Disaster Reconstruction	393.5	-46.0	514.0	30.6	503.5	-2.0	431.6	-14.3	483.8	12.1
Reserves	10.9	-3.7	10.7	-2.2	11.3	5.6	11.8	3.6	10.4	-11.9
Pensions	1,885.8	-0.2	1,863.7	-1.2	1,850.1	-0.7	1,895.6	2.5	1,879.8	-0.8
Civil Servants	128.2	-3.4	124.8	2.8	121.4	-2.7	122.2	0.7	118.1	-3.4
Veterans	1,601.1	-0.2	1,578.7	-1.4	1,562.6	-1.0	1,606.9	2.8	1,599.0	-0.5
Other Pensions	146.0	2.0	149.9	2.7	155.9	4.0	157.6	1.1	154.4	-2.0
Administrative Costs	10.5	-0.9	10.4	-1.4	10.3	-0.1	8.9	-14.3	8.4	-5.6
Local Finance	9,219.0	20.2	9,690.1	5.1	9,734.7	0.5	11,086.2	13.9	13,031.2	17.5
Local Allocation Tax	9,036.1	23.5	9,690.1	7.2	9,734.7	0.5	11,086.2	13.9	13,031.2	17.5
Interest Support and Special Grants	182.9	-48.6	0.0	-100.0	0.0	0.0	0.0	0.0	0.0	0.0
National Debt Service	9,232.7	13.0	10,180.5	10.3	10,664.4	4.8	11,851.4	11.1	12,030.7	1.5
Defense	2,961.5	7.3	3,169.7	7.0	3,338.0	5.3	3,507.8	5.1	3,728.3	6.3
Economic Cooperation	540.9	8.6	581.2	7.5	600.5	3.3	661.3	10.1	714.4	8.0
Small Business Assistance	230.4	-3.6	211.9	-8.0	225.6	6.5	263.2	16.6	257.6	-2.1
Energy Support	610.4	9.5	626.2	2.6	570.5	-8.9	496.8	-12.9	458.4	-7.7
Food Agency Account	808.6	-11.8	695.2	-14.0	613.8	-11.7	688.2	12.1	480.4	-30.2
Miscellaneous	4,367.9	-34.2	4,346.9	-0.5	4,104.0	-5.6	4,292.2	4.6	4,304.6	0.3
Reserves	170.0	-19.0	200.0	17.6	200.0	0.0	200.0	0.0	200.0	0.0
Industrial Investment Special Account	0.0	0.0	0.0	0.0	0.0	0.0	458.0	100.0	1,300.0	183.8

*Revised budget figures include the supplementary budget.

Source: Ministry of Finance

Table 5: Japan's Discretionary General Account Spending (Revised), FY 1984-FY 1988*

(in billions of yen and percent change)

	FY 1984		FY 1985		FY 1986		FY 1987		FY 1988	
Total Expenditures	Y51,513.4	1.3%	Y53,222.9	3.3%	Y53,824.8	1.1%	Y58,214.2	8.2%	Y61,851.7	6.3%
Minus										
Debt Service and Transfers to Local Governments	18,268.9	18.0	19,870.6	8.8	20,399.1	2.7	22,937.6	12.4	25,061.9	9.3
Equals										
Discretionary Spending	33,244.5	-6.0	33,352.3	0.3	33,425.8	0.2	35,276.5	5.5	36,789.8	4.3

*Revised budget figures include the supplementary budget.

Source: Ministry of Finance

Table 6: Japan's General Account Revenues (Revised), FY 1984-FY 1988*

(in billions of yen and percent change)

	FY 1984		FY 1985		FY 1986		FY 1987		FY 1988	
Total Revenues	Y51,513.4	1.3%	Y53,222.9	3.3%	Y53,824.8	1.1%	Y58,214.2	8.2%	Y61,851.7	6.3%
Tax and Stamp Revenues	34,835.0	9.2	38,145.0	9.5	39,440.0	3.4	43,087.0	9.3	48,106.0	11.7
Direct Taxes	26,193.0	9.9	28,579.0	9.1	29,469.0	3.1	31,703.0	7.6	36,284.0	14.5
Income Taxes	13,985.0	3.2	15,378.0	10.0	16,393.0	6.6	16,188.0	-1.3	16,928.0	4.6
Corporate Taxes	11,333.0	19.3	12,197.0	7.6	11,725.0	-3.9	13,722.0	17.0	17,712.0	29.1
Indirect Taxes and Stamp Revenues	8,642.0	7.1	9,566.0	10.7	9,971.0	4.2	11,384.0	14.2	11,822.0	3.9
Liquor Taxes	1,992.0	7.1	1,955.0	-1.9	1,974.0	1.0	2,042.0	3.4	2,066.0	1.2
Gasoline Taxes	1,617.0	1.0	1,554.0	-3.9	1,572.0	1.2	1,596.0	1.5	1,314.0	-17.7
Commodity Taxes	1,503.0	14.4	1,538.0	2.3	1,627.0	5.8	1,686.0	3.6	1,906.0	13.1
Monopoly Profits	1,024.6	2.0	6.6	-99.4	7.6	15.2	6.0	-21.1	8.0	34.2
Public Enterprise Receipts	15.4	1.4	15.9	3.2	16.7	5.0	17.5	4.8	16.7	-5.0
Sale of Public Properties	92.3	11.7	157.9	71.1	134.5	-14.8	180.6	34.3	126.1	-30.2
Miscellaneous	2,282.6	-40.6	2,254.0	-1.3	2,289.7	1.6	2,044.7	-10.7	2,653.5	29.8
Public Bonds	12,865.0	-6.7	12,438.0	-3.3	11,495.0	-7.6	10,539.0	-8.3	7,967.0	-24.4
Carryover Surplus	398.5	97.1	205.4	-49.5	441.3	114.8	2,339.4	430.1	2,974.6	27.2

*Revised budget figures include the supplementary budget.

Source: Ministry of Finance

Table 7: Uses and Sources of Japan's Fiscal Investment and Loan Program Outlays (Initial), FY 1984-FY 1988

(in billions of yen and percent change)

	FY 1984		FY 1985		FY 1986		FY 1987		FY 1988	
Total Outlays	Y21,106.6	1.9%	Y20,858.0	-1.2%	Y22,155.1	6.2%	Y27,081.3	7.1%	Y29,614.0	9.4%
Housing	5,289.5	-0.3	5,289.3	-0.0	5,856.2	10.7	6,328.2	8.1	6,921.5	9.4
Other Social Infrastructure	3,007.5	8.8	3,280.9	9.1	3,694.5	12.6	3,998.7	8.2	4,450.9	11.3
Welfare	637.9	-2.1	595.7	-6.6	625.9	5.1	627.7	0.3	661.8	5.4
Education	777.1	-0.8	745.3	-4.1	678.2	-9.0	784.1	15.6	637.6	-18.7
Small Business	3,968.3	0.7	3,764.4	-5.1	3,700.0	-1.7	3,985.6	7.7	4,030.6	1.1
Agriculture	1,034.8	7.5	890.6	-13.9	902.1	1.3	907.8	0.6	979.4	7.9
Land Conservation and Disaster Work	379.1	13.8	472.8	24.7	422.7	-10.6	493.0	16.6	409.8	-16.9
Roads	1,711.7	8.1	1,826.4	6.7	2,024.4	10.8	2,363.0	16.7	2,512.1	6.3
Transportation and Communications	1,887.6	-1.9	1,763.4	-6.6	2,015.1	14.3	2,264.1	12.4	2,229.9	-1.5
Regional Development	500.0	-2.2	511.2	2.2	566.1	10.7	657.7	16.2	652.2	-0.8
Industry and Technology	620.3	-0.9	603.3	-2.7	635.9	5.4	630.9	-0.8	687.2	8.9
Foreign Trade and Economic Cooperation	1,292.8	-1.7	1,114.7	-13.8	1,034.0	-7.2	690.5	-3[illegible].2	1,171.0	69.6
Cash Management							3,350.0	n.a.	4,270.0	27.5
Total Revenues	Y24,706.6	1.2%	Y25,858.0	4.7%	Y27,155.1	5.0%	Y31,081.3	14.5%	Y33,114.0	6.5%
Industrial Investment Special Account	4.8	-7.7	31.4	554.2	61.5	95.9	144.3	134.6	91.2	-36.8
Trust Fund Bureau Fund	18,905.2	-1.2	20,029.0	5.9	20,738.6	3.5	24,595.8	18.6	26,206.6	6.6
Postal Savings	6,900.0	-12.7	6,400.0	-7.2	7,000.0	9.4	7,900.0	12.9	7,900.0	0.0
Pension Contributions	3,850.0	-6.1	3,950.0	2.6	4,300.0	8.9	4,450.0	3.5	3,500.0	-21.3
Other Revenues	8,155.2	14.3	9,679.0	18.7	9,438.6	-2.5	12,245.8	29.7	14,806.6	20.9
Postal Life Insurance Fund	2,586.6	9.9	2,587.6	0.0	3,145.0	21.5	3,941.2	25.3	4,409.4	11.9
Government-Guaranteed Bonds and Borrowings	3,210.0	10.4	3,210.0	0.0	3,210.0	0.0	2,400.0	-25.2	2,406.8	0.3

Source: Ministry of Finance

Table 8: Japan's Industrial Production Index by Sector, 1984-1988

(1985 = 100)

	Total		Mining	Manufacturing	Steel	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment
	Index	Change								
1984	96.4	9.4%	98.9	96.4	98.1	100.0	99.6	92.2	94.1	93.3
1985	100.0	3.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	99.8	-0.2	99.6	99.8	94.4	100.0	99.7	95.6	104.2	98.1
1987	103.2	3.4	90.3	103.2	96.3	107.6	103.2	95.9	113.7	96.8
1988	113.0	9.5	85.9	113.1	105.0	114.2	111.0	110.3	132.3	105.5

	Precision Instruments	Nonmetallic Mineral Products	Chemicals	Petroleum and Coal Products	Plastic Products	Pulp, Paper and Paper Products	Textiles	Food and Tobacco Products	Other
1984	87.6	100.0	96.9	106.4	97.1	96.2	101.1	99.8	99.6
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	104.5	96.8	103.2	96.4	101.8	103.0	95.9	101.1	100.7
1987	105.4	100.3	111.1	92.9	106.7	109.2	94.4	101.9	103.9
1988	114.1	109.6	120.4	96.7	113.3	118.7	94.5	103.6	109.8

Source: Ministry of International Trade and Industry

Table 9: Japan's Index of Industrial Production by End-Use Classification, 1984-1988

(1985 = 100)

	Final Demand Goods					Producer Goods
	Total	Capital Goods	Construction Materials	Consumer Goods		
				Durable	Nondurable	
1984	94.8	92.8	101.2	89.8	98.3	98.4
1985	100.0	100.0	100.0	100.0	100.0	100.0
1986	100.6	99.0	99.8	102.3	101.9	98.7
1987	103.2	102.2	105.5	101.5	104.5	103.1
1988	112.2	116.6	112.0	108.8	109.4	113.9

Source: Ministry of International Trade and Industry

Table 10: Japan's Index of Producers' Inventories of Finished Goods, 1984-1988

(1985 = 100)

	Total	Mining	Manufacturing	Steel	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment
1984	93.8	88.8	93.8	94.6	91.3	97.5	88.3	77.5	92.3
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	101.1	163.0	100.9	96.2	101.0	98.4	104.3	103.6	93.8
1987	97.4	264.3	96.9	89.4	93.6	100.6	95.4	98.8	92.4
1988	99.0	276.4	98.4	91.6	89.7	103.9	94.4	104.1	90.4

	Precision Instruments	Nonmetallic Mineral Products	Chemicals	Petroleum and Coal Products	Plastic Products	Pulp, Paper and Paper Products	Textiles	Food and Tobacco Products	Other
1984	90.2	92.0	94.9	106.8	95.1	90.4	93.2	106.5	98.8
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	118.8	104.4	102.3	99.4	100.5	104.6	103.3	99.4	99.1
1987	112.8	98.7	98.2	98.5	99.8	107.2	97.0	95.5	95.9
1988	101.5	96.4	102.3	99.7	104.8	106.4	98.7	93.2	103.7

Source: Ministry of International Trade and Industry

Table 11: Japan's Index of Consumption of Materials, 1984-1988

(1985 = 100)

	Manufacturing	Steel	Non-ferrous Metals	Fabricated Metal Products	Machinery	Nonmetallic Mineral Products	Chemicals	Petroleum and Coal Products	Plastic Products	Pulp, Paper and Paper Products	Textiles	Other Industries
1984	99.0	98.8	100.7	99.8	96.2	102.2	99.9	106.7	98.0	97.8	101.9	100.3
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	96.1	89.7	100.2	99.3	94.9	99.1	99.5	95.7	102.1	101.7	94.3	97.6
1987	97.6	90.4	104.7	104.9	95.2	102.9	105.7	93.1	108.3	106.9	94.0	101.1
1988	105.4	98.9	111.5	110.2	105.5	111.3	113.7	96.5	116.1	115.0	93.6	104.0

Source: Ministry of International Trade and Industry

Table 12: Japan's Index of Inventories of Materials, 1984-1988

(1985 = 100)

	Manufacturing	Steel	Non-ferrous Metals	Fabricated Metal Products	Machinery	Nonmetallic Mineral Products	Chemicals	Petroleum and Coal Products	Plastic Products	Pulp, Paper and Paper Products	Textiles	Other Industries
1984	101.9	104.7	106.0	103.4	100.0	97.1	101.2	98.9	107.9	105.3	103.1	100.0
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	95.1	98.2	77.7	92.2	89.1	94.9	99.6	99.6	89.7	94.8	93.4	99.6
1987	91.4	91.8	64.3	88.0	82.6	90.8	100.0	97.0	99.7	90.7	91.6	100.5
1988	94.7	97.3	65.0	91.6	91.1	92.8	100.4	97.9	102.9	96.1	95.9	100.1

Source: Ministry of International Trade and Industry

Table 13: Japan's Index of Manufacturing Operating Rates, 1984-1988

(1985 = 100)

	Total	Steel	Non-ferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments	Nonmetallic Mineral Products	Chemicals	Petroleum and Coal Products	Pulp, Paper and Paper Products	Textiles
1984	99.8	97.1	101.6	97.5	99.5	103.6	99.6	95.0	98.4	98.9	107.4	96.0	99.9
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	95.4	93.9	98.8	98.5	87.7	92.4	95.9	95.2	96.7	99.9	95.9	102.8	99.1
1987	95.5	95.6	104.8	103.4	83.1	90.1	95.0	88.8	95.4	104.3	97.4	109.6	98.2
1988	101.1	105.9	109.1	112.5	94.3	91.6	98.6	93.3	101.6	109.5	104.1	118.6	99.8

Source: Ministry of International Trade and Industry

Table 14: Residential Construction Starts in Japan, 1984-1988

(units)

		Type of Housing		Owner-Occupant Relationship			
	Total	Public	Private	Owner-Built	Developer-Built	Rental Units	Other
1984	1,187,282	86,285	1,100,997	469,879	231,001	464,308	22,094
1985	1,236,072	81,305	1,154,767	464,697	224,018	527,042	20,315
1986	1,364,609	80,780	1,283,829	477,050	220,155	645,886	21,518
1987	1,674,300	80,719	1,593,581	546,316	246,861	858,726	22,397
1988	1,684,644	84,466	1,600,178	508,660	293,311	858,665	24,008

Source: Ministry of Construction

Table 15: Japan's Labor Force Survey, 1984-1988

(in thousands of persons)

	Working-Age Population*	Total Labor Force	Employed Labor Force	Totally Unemployed Labor Force	Unemployment Rate	Not in Labor Force	Ratio of Job Openings to Applications**
1984	93,470	59,270	57,660	1,610	2.7%	33,730	0.65
1985	94,650	59,630	58,070	1,560	2.6	34,500	0.68
1986	95,870	60,200	58,530	1,670	2.8	35,130	0.62
1987	97,200	60,840	59,110	1,730	2.8	35,840	0.70
1988	98,490	61,660	60,110	1,550	2.5	36,350	1.01

*People 15 years old and over.
**Excludes applications by new school graduates but includes those by people seeking part-time work.

Source: Prime Minister's Office and Ministry of Labor

Table 16: Employment Index of Regular Workers in Japan, 1984-1988

(1985 = 100)

	Total	Mining	Construction	Manufacturing	Foods and Tobacco	Textiles	Apparel	Lumber and Wood Products	Pulp and Paper Products	Publishing	Chemicals	Petroleum and Coal Products	Nonmetallic Mineral Products	Steel
1984	98.2	104.6	102.9	97.6	99.2	103.2	97.4	105.4	98.7	98.0	100.2	103.3	101.0	101.0
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	101.4	93.4	99.5	101.2	102.9	96.6	103.6	99.9	101.7	101.6	101.4	97.3	99.5	97.2
1987	102.0	87.3	101.9	99.7	104.5	94.6	103.0	103.2	101.8	103.3	102.4	92.0	98.9	91.8
1988	103.5	81.4	104.2	100.3	106.3	93.1	103.8	103.8	101.7	107.3	103.0	87.6	98.4	88.2

	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments	Utilities	Transportation and Communications	Wholesale and Retail Trade	Finance and Insurance	Real Estate	Services
1984	100.0	99.8	96.9	91.6	97.9	98.2	101.4	100.1	98.2	101.1	96.2	96.2
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	99.6	101.0	102.4	103.1	99.5	99.5	100.6	98.8	102.4	100.4	102.2	103.2
1987	98.9	101.4	100.2	100.7	94.9	95.3	101.0	96.0	105.9	103.5	106.8	105.9
1988	98.5	104.0	100.5	102.1	94.6	94.3	100.5	95.8	108.6	104.5	111.7	109.1

Source: Ministry of Labor

Table 17: Nominal Wage Index of Regular Workers in Japan, 1984-1988

(1985 = 100)

	Total	Mining	Construction	Manufacturing	Foods and Tobacco	Textiles	Apparel	Lumber and Wood Products	Pulp and Paper Products	Publishing	Chemicals	Petroleum and Coal Products	Nonmetallic Mineral Products	Steel
1984	97.3	96.1	96.6	97.0	98.2	96.6	100.5	95.2	95.6	95.4	97.2	94.5	96.8	95.4
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	102.7	99.1	104.3	101.5	105.2	102.1	100.8	104.9	101.7	104.7	102.6	103.3	103.3	100.1
1987	104.7	100.3	107.1	103.2	106.8	105.6	103.2	109.0	103.8	105.0	106.2	106.5	105.7	98.4
1988	108.7	102.2	112.8	107.8	107.6	108.4	107.1	112.7	106.5	104.0	110.5	113.2	112.5	103.7

	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments	Utilities	Transportation and Communications	Wholesale and Retail Trade	Finance and Insurance	Real Estate	Services
1984	95.5	97.6	96.6	99.3	96.2	94.5	96.1	98.3	98.5	95.2	98.0	96.9
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	102.7	103.5	99.4	100.4	100.7	100.4	105.2	102.1	102.7	105.1	105.7	103.7
1987	105.4	104.4	100.6	103.7	101.0	101.2	107.5	105.9	104.2	108.0	109.1	104.8
1988	110.4	109.0	107.1	108.5	108.5	108.4	111.4	111.4	107.4	111.9	113.0	107.3

Source: Ministry of Labor

Table 18: Average Monthly Wages of Manufacturing Employees in Japan by Industry, 1984-1988

(in thousands of yen)

	Total	Foods and Tobacco	Textiles	Pulp and Paper Products	Chemicals	Nonmetallic Mineral Products	Steel	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments
1984	Y292.3	Y233.7	Y202.2	Y301.4	Y376.3	Y284.7	Y373.5	Y324.3	Y282.7	Y330.8	Y281.7	Y333.6	Y274.0
1985	299.5	235.5	211.9	314.6	389.6	289.0	391.7	336.4	287.8	337.6	280.7	345.1	287.4
1986	305.4	250.6	216.9	322.0	402.8	299.2	392.1	345.1	298.5	334.9	283.6	348.3	288.9
1987	313.2	259.6	224.2	331.7	419.2	308.1	385.2	354.6	302.6	340.7	296.2	352.4	292.2
1988	318.7	245.4	227.3	329.5	421.5	325.9	403.9	373.6	312.6	362.7	299.1	369.6	310.5

Note: Includes overtime pay and bonuses.

Source: Ministry of Labor

Table 19: Index of Labor Productivity in Japan, 1984-1988

(1985 = 100)

	Total	Mining	Manufacturing	Foods	Textiles	Lumber and Wood Products	Pulp and Paper Products	Nonmetallic Mineral Products	Rubber Products	Chemicals
1984	95.8	95.8	95.8	101.0	98.4	95.2	94.3	97.9	97.0	96.[illegible]
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	101.9	108.4	101.8	101.4	100.8	112.9	105.7	99.8	99.7	104.2
1987	107.8	123.8	107.7	100.4	102.5	107.3	113.3	105.6	104.9	113.2
1988	120.2	137.0	120.1	104.6	107.8	112.9	123.5	125.5	112.0	122.2

	Plastic Products	Petroleum and Coal Products	Steel	Nonferrous Metals	Fabricated Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments
1984	98.0	101.9	96.0	98.8	93.8	93.1	95.5	93.8	87.3
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	100.2	103.5	97.9	101.2	102.1	97.3	102.9	101.0	109.1
1987	105.6	107.4	107.1	109.1	108.4	102.8	114.5	102.9	118.1
1988	111.9	119.6	121.5	114.6	116.5	119.3	134.5	113.0	138.7

Source: Japan Productivity Center

Table 20: Japan's Consumer Price Index, 1984-1988

(1985 = 100)

	Total		Food	Housing	Utilities	Furniture and Housewares	Clothing	Medical Care	Transportation	Education	Recreation	Miscellaneous
	Index	Change										
1984	98.0	2.3%	98.3	97.5	100.4	99.3	96.7	94.5	97.9	95.7	98.0	98.7
1985	100.0	2.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	100.6	0.6	100.2	102.5	95.0	100.0	102.2	101.9	99.3	103.6	101.5	102.0
1987	100.7	0.1	99.3	105.4	88.0	99.4	103.3	103.8	100.0	107.1	102.0	103.2
1988	101.4	0.7	100.0	107.6	85.9	98.9	104.5	104.2	99.5	110.7	102.6	103.6

Source: Management and Coordination Agency

Table 21: Japan's Wholesale Price Index by Industry, 1984-1988

(1985 = 100)

	Total											
	Index	Change	Foods	Textiles	Lumber and Wood Products	Pulp, Paper and Paper Products	Chemicals	Plastic Products	Petroleum and Products	Nonmetallic Mineral Products	Steel	Nonferrous Metals
1984	101.1	-0.3%	99.8	101.1	100.5	101.8	102.1	100.1	100.6	103.0	101.4	105.0
1985	100.0	-1.1	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	90.9	-9.1	99.4	91.8	95.2	96.3	89.4	95.6	76.9	98.1	90.1	83.2
1987	87.5	-3.7	98.5	90.5	105.0	94.5	85.7	92.1	64.3	96.5	86.9	83.1
1988	86.6	-1.0	97.9	90.3	103.2	95.3	86.1	92.2	60.8	95.8	90.7	90.6

	Metal Products	Nonelectric Machinery	Electric Machinery	Transport Equipment	Precision Instruments	Miscellaneous Manufactures	Agricultural, Forestry and Fishery Products	Mining Products	Utilities
1984	99.9	99.8	102.7	100.2	100.3	100.9	104.3	99.5	99.7
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	98.4	96.3	89.8	94.8	98.2	97.3	91.0	56.4	95.3
1987	95.6	93.8	84.3	92.6	97.4	95.3	86.7	50.8	89.0
1988	97.7	93.4	80.4	90.8	94.4	95.8	87.2	45.6	84.0

Source: Bank of Japan

Table 22: Japan's Wholesale Price Index by End-Use Classification, 1984-1988

(1985 = 100)

	Domestic Products										Exports			
			Intermediate Goods					Consumer Goods						
	Total	Raw Materials	Total	Semi-finished Goods	Con-struction Materials	Fuels and Energy	Capital Goods	Total	Durables	Nondurables	Total	Semi-finished Goods	Capital Goods	Consumer Goods
1984	101.1	101.9	101.6	102.5	101.3	100.1	99.9	100.0	100.3	99.9	101.5	102.5	100.0	101.8
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	91.8	66.5	92.0	91.3	97.5	85.6	97.7	98.0	97.4	98.1	84.9	80.0	89.2	87.0
1987	88.5	62.4	88.2	87.7	98.7	74.7	95.5	95.7	94.5	96.2	80.6	75.7	85.2	82.7
1988	87.8	59.9	88.2	88.5	100.4	69.9	95.2	93.9	90.9	95.0	78.8	75.9	83.2	78.3

Source: Bank of Japan

Table 23: Japan's Global Balance of Payments, 1984-1988

(in millions of dollars, IMF value basis, seasonally unadjusted)

		Trade Balance	Exports	Imports	Services	Transfers	Current Account Balance	Long-Term Capital	Basic Balance	Short-Term Capital	Errors and Omissions	Overall Balance	Gold and Foreign Exchange Reserves*
1984		$44,257	$168,290	$124,033	$-7,747	$-1,507	$35,003	$-49,651	$-14,648	$-4,295	$3,743	$-15,200	$26,313
1985		55,986	174,015	118,029	-5,165	-1,652	49,169	-64,542	-15,373	-936	3,991	-12,318	26,510
1986		92,827	205,591	112,764	-4,932	-2,050	85,845	-131,461	-45,616	-1,609	2,458	-44,767	42,239
1987		96,386	224,605	128,219	-5,702	-3,669	87,015	-136,532	-49,517	23,865	-3,893	-29,545	81,479
1988		95,012	259,765	164,753	-11,263	-4,118	79,631	-130,930	-51,299	19,521	2,796	-28,982	97,662
1987	January	5,703	14,646	8,943	-637	-225	4,841	-12,461	-7,620	1,581	-997	-7,036	51,459
	February	8,284	16,848	8,564	-510	-140	7,634	-11,441	-3,807	-1,346	2,503	-2,650	51,730
	March	9,386	19,021	9,635	-201	-698	8,487	-8,307	180	1,157	3,477	4,814	58,389
	April	8,886	19,236	10,350	-496	-238	8,152	-12;393	-4,241	2,131	316	-1,794	68,620
	May	8,110	18,154	10,044	-854	-144	7,112	-12,778	-5,666	1,304	2,911	-1,451	68,935
	June	8,042	18,433	10,391	-251	-293	7,498	-19,194	-11,696	3,025	-2,541	-11,212	69,273
	July	8,581	19,535	10,954	-1,057	-240	7,284	-18,515	-11,231	1,770	-1,346	-10,807	69,769
	August	6,183	17,183	11,000	-597	-190	5,396	-1,134	4,262	5,342	-309	9,295	70,726
	September	8,821	19,882	11,061	-103	-209	8,509	-2,374	6,135	2,721	866	9,722	72,139
	October	7,737	20,121	12,384	-807	-196	6,734	-18,649	-11,915	913	-3,568	-14,570	73,050
	November	6,695	18,564	11,969	116	-878	5,933	-14,119	-8,186	6,509	-3,743	-5,420	78,044
	December	9,958	22,882	12,924	-305	-218	9,435	-5,167	4,268	-1,242	-1,462	1,564	81,479
1988	January	4,557	17,038	12,481	-939	-113	3,505	-3,642	-137	2,764	3,062	5,689	83,407
	February	7,159	19,900	12,741	-322	-250	6,587	-8,296	-1,709	-1,294	1,241	-1,762	83,821
	March	9,305	22,407	13,102	-76	-900	8,329	-3,204	5,125	-3,441	3,083	4,767	84,857
	April	8,481	22,013	13,532	-1,019	-584	6,878	-10,213	-3,335	1,683	-1,873	-3,525	86,838
	May	6,582	20,120	13,538	-813	-201	5,568	-16,247	-10,679	2,525	840	-7,314	87,244
	June	7,385	21,426	14,041	-1,050	-214	6,121	-10,096	-3,975	-3,479	-1,410	-8,864	87,700
	July	8,684	22,811	14,127	-1,584	-602	6,498	-18,377	-11,879	-1,953	-2,005	-15,837	88,908
	August	6,306	20,464	14,158	-1,113	-220	4,973	-12,846	-7,873	4,723	-2,421	-5,571	90,222
	September	8,775	22,714	13,939	-926	-268	7,581	-10,991	-3,410	7,312	-744	3,158	91,151
	October	9,091	22,961	13,870	-1,401	-237	7,453	-12,737	-5,284	4,849	738	303	92,496
	November	7,659	22,241	14,582	-621	-237	6,801	-10,289	-3,488	2,052	1,914	478	97,147
	December	11,028	25,670	14,642	-1,399	-292	9,337	-13,992	-4,655	3,780	371	-504	97,662

*End of period.

Note: For capital transactions, credits (+) indicate net inflows and debits (-) indicate net outflows.

Source: Bank of Japan and Ministry of Finance

Table 24: Japan's Balance of Payments with the United States, 1984-1988

(in millions of dollars, IMF value basis)

	1984	1985	1986	1987	1988
Merchandise Trade Balance	$36,704	$42,988	$54,919	$57,117	$52,448
Exports	60,479	65,617	80,385	83,010	89,146
Imports	23,775	22,629	25,466	25,893	36,698
Services Balance	-1,495	-1,012	-585	1,021	115
Transportation	-37	110	243	-698	-1,132
Travel	-1,369	-1,329	-2,012	-3,106	-5,721
Investment Income	1,379	2,268	3,231	7,300	11,364
Other	-1,468	-2,061	-2,047	-2,475	-4,396
Official	1,397	1,495	1,931	1,751	1,578
Private	-2,865	-3,556	-3,978	-4,226	-5,974
Unilateral Transfers Balance	-191	-249	-552	-1,460	-1,243
Official	-44	-27	-92	-779	-588
Private	-147	-222	-460	-681	-655
Current Account Balance	35,018	41,727	53,782	56,678	51,320
Long-Term Capital (net)	-14,814	-33,163	-65,650	-61,030	-59,260
Direct Investments (net)	-3,180	-2,043	-7,774	-9,018	-19,568
Trade Credits (net)	-195	-587	-334	-489	-1,024
Loans (net)	-477	-716	-690	-1,663	-2,830
Stocks and Bonds (net)	-10,591	-29,874	-55,944	-48,223	-33,320
Other (net)	-371	57	-908	-1,637	-2,518
Basic Balance	20,204	8,564	-11,868	-4,352	-7,940

Note: For long-term capital transactions, credits (+) indicate net inflows and debits (-) indicate net outflows.

Source: Bank of Japan

Table 25: Japan's Exports and Imports in Dollar Terms, 1984-1988

(in millions of dollars, customs clearance basis, seasonally unadjusted)

		Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		$170,114	15.8%	$136,503	8.0%	$33,611
1985		175,638	3.3	129,539	-5.1	46,099
1986		209,151	19.1	126,408	-2.4	82,743
1987		229,221	9.6	149,515	18.3	79,706
1988		264,917	15.6	187,354	25.3	77,563
1987	January	14,911	16.6	10,600	-2.8	4,311
	February	17,240	14.4	10,113	-9.2	7,127
	March	19,314	9.5	11,263	2.7	8,050
	April	19,499	9.8	11,964	9.7	7,536
	May	18,615	3.9	12,197	17.5	6,417
	June	18,817	7.6	12,219	20.6	6,598
	July	19,894	5.3	12,957	21.2	6,938
	August	17,604	4.6	12,457	33.2	5,147
	September	20,357	6.9	12,932	28.0	7,425
	October	20,661	7.9	13,865	21.9	6,796
	November	18,938	12.0	14,187	49.2	4,751
	December	23,372	18.9	14,760	34.9	8,612
1988	January	17,329	16.2	14,254	34.5	3,075
	February	20,233	17.4	14,993	48.3	5,240
	March	22,717	17.6	15,258	35.5	7,459
	April	22,479	15.3	15,696	31.2	6,784
	May	20,648	10.9	15,461	26.8	5,187
	June	22,051	17.2	16,103	31.8	5,948
	July	23,147	16.3	15,966	23.2	7,180
	August	20,849	18.4	15,876	27.4	4,973
	September	23,174	13.8	15,416	19.2	7,758
	October	23,436	13.4	15,756	13.6	7,681
	November	22,681	19.8	16,117	13.6	6,563
	December	26,174	12.0	16,458	11.5	9,716

Source: Ministry of Finance

Table 26: Japan's Exports and Imports in Yen Terms, 1984-1988

(in billions of yen, customs clearance basis, seasonally unadjusted)

		Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		Y40,325	15.5%	Y32,321	7.7%	Y8,004
1985		41,956	4.0	31,085	-3.8	10,871
1986		35,290	-15.9	21,551	-30.7	13,739
1987		33,315	-5.6	21,737	0.9	11,578
1988		33,939	1.9	24,006	10.4	9,933
1987	January	2,362	-8.6	1,686	-23.5	677
	February	2,635	-9.6	1,544	-28.3	1,091
	March	2,963	-6.7	1,729	-12.5	1,235
	April	2,863	-9.8	1,758	-9.8	1,105
	May	2,606	-12.8	1,707	-1.6	899
	June	2,685	-9.2	1,742	1.6	943
	July	2,942	-4.3	1,915	9.8	1,027
	August	2,655	1.8	1,879	29.6	776
	September	2,910	-1.3	1,850	18.3	1,060
	October	2,986	1.1	2,005	14.3	981
	November	2,619	-3.4	1,965	28.9	654
	December	3,090	-3.5	1,958	9.9	1,132
1988	January	2,188	-7.4	1,796	6.6	392
	February	2,603	-1.2	1,928	24.8	675
	March	2,923	-1.4	1,964	13.6	959
	April	2,826	-1.3	1,972	12.2	854
	May	2,576	-1.1	1,929	13.0	647
	June	2,762	2.9	2,017	15.8	745
	July	3,039	3.3	2,098	9.5	941
	August	2,776	4.5	2,113	12.5	662
	September	3,110	6.9	2,069	11.9	1,041
	October	3,095	3.7	2,089	4.2	1,006
	November	2,842	8.5	2,021	2.8	821
	December	3,202	3.6	2,011	2.7	1,191

Source: Ministry of Finance

Table 27: Japan's Export and Import Quantum (Volume) Indexes, 1984-1988

(1985 = 100)

		Exports		Imports	
		Index	Change Over Year-Earlier Period	Index	Change Over Year-Earlier Period
1984		n.a.	n.a.	n.a.	n.a.
1985		100.0	n.a.	100.0	n.a.
1986		98.8	-1.2%	109.4	9.4%
1987		99.2	0.4	119.3	9.0
1988		103.6	4.4	139.1	16.7
1987	January	82.2	2.6	114.1	13.5
	February	92.7	0.8	103.4	1.7
	March	104.5	0.5	112.5	6.0
	April	101.8	-1.1	117.1	3.8
	May	97.0	-3.5	115.8	5.3
	June	98.1	-1.8	116.0	7.9
	July	104.0	-1.1	122.7	7.7
	August	92.3	0.7	118.2	13.1
	September	103.8	-0.6	120.5	8.0
	October	106.5	2.4	127.6	5.3
	November	94.3	2.3	129.8	25.4
	December	113.2	3.7	133.4	11.8
1988	January	82.1	-0.1	128.1	12.3
	February	96.6	4.2	135.8	31.3
	March	107.8	3.2	137.0	21.8
	April	105.0	3.1	141.1	20.5
	May	96.4	-0.6	136.3	17.7
	June	102.7	4.7	139.9	20.6
	July	109.8	5.6	142.0	15.7
	August	98.7	6.9	138.2	16.9
	September	111.1	7.0	136.5	13.3
	October	110.0	3.3	138.5	8.5
	November	104.1	10.4	146.0	12.5
	December	118.3	4.5	150.3	12.7

Source: Ministry of Finance

Table 28: Japan's Export and Import Yen-Based Price Indexes, 1984-1988

(1985 = 100)

		Exports		Imports	
		Index	Change Over Year-Earlier Period	Index	Change Over Year-Earlier Period
1984		101.5	0.7%	102.5	-3.4%
1985		100.0	-1.5	100.0	-2.4
1986		84.9	-15.1	64.2	-35.8
1987		80.6	-5.1	58.9	-8.3
1988		78.8	-2.2	56.2	-4.6
1987	January	82.7	-9.6	58.1	-33.9
	February	82.1	-6.9	58.8	-28.1
	March	81.8	-6.1	59.0	-19.2
	April	79.7	-7.5	57.3	-15.1
	May	78.8	-6.3	57.2	-8.0
	June	80.3	-5.1	58.5	-4.3
	July	82.3	-0.4	60.6	6.5
	August	81.8	0.4	61.0	14.0
	September	80.6	-1.6	60.1	11.1
	October	80.7	-2.3	60.6	8.0
	November	79.1	-6.3	58.9	1.9
	December	77.5	-8.2	57.2	-1.9
1988	January	77.4	-6.4	56.2	-3.3
	February	77.8	-5.2	56.3	-4.3
	March	77.7	-5.0	56.5	-4.2
	April	77.9	-2.3	55.6	-3.0
	May	77.7	-1.4	55.6	-2.8
	June	78.3	-2.5	56.8	-2.9
	July	80.2	-2.6	58.0	-4.3
	August	80.8	-1.2	57.7	-5.4
	September	81.1	0.6	57.8	-3.8
	October	79.8	-1.1	56.5	-6.8
	November	78.3	-1.0	53.9	-8.5
	December	78.2	0.9	53.7	-6.1

Source: Bank of Japan

Table 29: Japan's Exports by Major Market, 1984-1988

(in millions of dollars, f.o.b. value basis)

	1984	1985	1986	1987	1988
Total Exports	$170,114	$175,638	$209,151	$229,221	$264,917
Developed Countries	96,421	102,468	131,149	142,883	161,847
United States	59,937	65,278	80,456	83,580	89,634
Canada	4,297	4,520	5,526	5,611	6,424
Western Europe	23,999	25,199	37,483	45,555	56,023
Denmark	937	758	989	917	792
United Kingdom	4,675	4,723	6,647	8,400	10,632
Netherlands	1,816	2,071	3,261	4,071	5,054
Belgium	1,339	1,477	2,198	2,697	3,390
France	1,935	2,083	3,152	4,014	4,987
West Germany	6,621	6,938	10,477	12,833	15,793
Spain	528	605	1,076	1,343	1,860
Italy	1,032	1,117	1,723	2,103	2,787
European Community	19,405	20,016	30,675	37,693	46,873
Sweden	1,009	1,094	1,438	1,931	2,320
Switzerland	1,089	1,161	1,887	2,266	2,775
Austria	423	473	764	1,006	1,406
Australia	5,184	5,379	5,227	5,146	6,680
New Zealand	1,163	1,072	1,103	1,128	1,039
South Africa	1,840	1,020	1,355	1,863	2,047
Developing Countries	63,092	56,978	63,934	74,402	89,250
Latin America	8,549	8,486	9,495	8,760	9,297
Mexico	888	994	1,032	1,389	1,772
Panama	3,444	3,326	3,197	2,416	2,653
Brazil	640	615	973	879	998
Southeast Asia	36,795	33,248	41,788	52,982	67,109
Korea	7,227	7,097	10,475	13,229	15,441
Taiwan	5,986	5,026	7,852	11,346	14,354
Hong Kong	6,559	6,509	7,161	8,872	11,706
Thailand	2,426	2,030	2,030	2,953	5,162
Singapore	4,610	3,861	4,577	6,008	8,311
Malaysia	2,875	2,168	1,708	2,168	3,060
Philippines	1,080	937	1,088	1,415	1,740
Indonesia	3,073	2,173	2,662	2,990	3,054
India	1,168	1,596	2,099	1,957	2,082
Middle East and North Africa	14,206	12,171	9,795	9,177	9,438
Iran	1,692	1,348	1,145	1,043	808
Saudi Arabia	5,634	3,890	2,762	3,239	3,142
Kuwait	1,432	1,536	1,220	857	731
Oman	508	554	288	262	348
United Arab Emirates	1,126	1,164	1,033	1,118	1,286
Subsaharan Africa	2,998	2,519	2,178	2,894	2,760
Communist Countries	10,602	16,190	14,064	11,924	13,818
China	7,217	12,478	9,856	8,250	9,476
U.S.S.R.	2,518	2,751	3,150	2,563	3,130

Source: Ministry of Finance

Table 30: Japan's Imports by Major Supplier, 1984-1988

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Total Imports	$136,503	$129,539	$126,408	$149,515	$187,354
Developed Countries	54,740	53,121	62,233	71,610	94,785
United States	26,862	25,793	29,054	31,491	42,037
Canada	4,945	4,773	4,895	6,073	8,308
Western Europe	13,091	12,356	18,118	22,749	30,578
Denmark	878	579	781	944	1,142
United Kingdom	2,267	1,817	3,573	3,057	4,193
Netherlands	434	439	577	757	996
Belgium	469	482	677	859	1,125
France	1,236	1,324	1,855	2,871	4,315
West Germany	2,684	2,928	4,298	6,150	8,101
Spain	420	350	297	357	537
Italy	1,049	1,050	1,495	2,135	2,895
European Community	9,334	8,893	13,989	17,670	24,071
Sweden	473	441	575	682	977
Switzerland	1,965	1,758	2,571	3,101	3,565
Austria	196	180	247	349	442
Australia	7,296	7,452	6,980	7,869	10,285
New Zealand	935	903	956	1,168	1,644
South Africa	1,611	1,844	2,229	2,259	1,933
Developing Countries	73,778	67,936	55,941	67,277	78,704
Latin America	7,230	6,242	6,194	6,356	8,313
Mexico	2,260	1,870	1,439	1,625	1,591
Panama	168	81	84	69	137
Brazil	1,991	1,840	1,875	2,032	2,950
Southeast Asia	31,883	30,264	29,489	38,627	47,802
Korea	4,213	4,092	5,292	8,076	11,811
Taiwan	3,204	3,386	4,691	7,128	8,744
Hong Kong	842	767	1,074	1,561	2,109
Thailand	1,040	1,027	1,391	1,796	2,751
Singapore	1,775	1,594	1,463	2,048	2,339
Malaysia	4,412	4,330	3,846	4,772	4,710
Philippines	1,419	1,243	1,221	1,353	2,044
Indonesia	11,176	10,119	7,311	8,427	9,497
India	1,132	1,189	1,297	1,530	1,804
Middle East and North Africa	33,066	29,927	18,427	20,197	19,602
Iran	2,869	2,506	1,383	1,556	1,164
Saudi Arabia	14,734	10,245	5,205	7,311	6,348
Kuwait	1,589	1,162	1,157	1,796	1,590
Oman	2,420	3,066	1,616	1,414	1,690
United Arab Emirates	7,720	8,916	5,947	5,408	5,324
Subsaharan Africa	1,166	1,052	1,356	1,435	2,011
Communist Countries	7,982	8,480	8,232	10,628	13,863
China	5,958	6,483	5,652	7,401	9,859
U.S.S.R.	1,394	1,429	1,972	2,352	2,766

Source: Ministry of Finance

Table 31: Japan's Trade Balance with Major Trading Partners, 1984-1988

(in millions of dollars; exports f.o.b., imports c.i.f.)

	1984	1985	1986	1987	1988
Overall Balance	$33,611	$46,099	$82,743	$79,706	$77,563
Developed Countries	41,680	49,347	68,917	71,273	67,062
United States	33,075	39,485	51,401	52,090	47,597
Canada	-648	-253	631	-462	-1,884
Western Europe	10,908	12,843	19,365	22,806	25,445
Denmark	59	179	209	-27	-350
United Kingdom	2,408	2,906	3,073	5,343	6,439
Netherlands	1,381	1,632	2,684	3,314	4,059
Belgium	870	995	1,521	1,837	2,265
France	700	759	1,297	1,143	672
West Germany	3,937	4,010	6,180	6,682	7,692
Spain	108	256	779	987	1,324
Italy	-17	67	228	-32	-108
European Community	10,071	11,124	16,687	20,024	22,802
Sweden	537	653	864	1,250	1,343
Switzerland	-876	-597	-684	-835	-790
Austria	227	293	517	658	964
Australia	-2,112	-2,073	-1,754	-2,723	-3,604
New Zealand	228	169	147	-41	-605
South Africa	229	-824	-874	-396	114
Developing Countries	-10,686	-10,958	7,993	7,126	10,546
Latin America	1,318	2,244	3,301	2,405	984
Mexico	-1,372	-876	-407	-236	182
Panama	3,276	3,245	3,113	2,348	2,516
Brazil	-1,351	-1,225	-902	-1,154	-1,952
Southeast Asia	4,912	2,984	12,299	14,355	19,307
Korea	3,014	3,005	5,183	5,154	3,631
Taiwan	2,782	1,640	3,161	4,218	5,611
Hong Kong	5,717	5,742	6,087	7,312	9,598
Thailand	1,385	1,004	639	1,157	2,410
Singapore	2,835	2,267	3,113	3,961	5,972
Malaysia	-1,537	-2,162	-2,137	-2,604	-1,650
Philippines	-339	-307	-133	62	-304
Indonesia	-8,102	-7,947	-4,649	-5,437	-6,443
India	35	408	802	427	277
Middle East and North Africa	-18,861	-17,766	-8,632	-11,020	-10,164
Iran	-1,177	-1,158	-239	-512	-356
Saudi Arabia	-9,100	-6,355	-2,443	-4,072	-3,206
Kuwait	-157	374	63	-939	-860
Oman	-1,912	-2,512	-1,328	-1,152	-1,342
United Arab Emirates	-6,594	-7,752	-4,915	-4,290	-4,038
Subsaharan Africa	1,833	1,466	822	1,459	749
Communist Countries	2,620	7,710	5,832	1,297	-44
China	1,259	5,995	4,204	848	-383
U.S.S.R.	1,124	1,321	1,178	211	364

Source: Ministry of Finance

Table 32: Japan's Exports by Commodity, 1984-1988

(in millions of dollars, f.o.b. value basis)

	1984	1985	1986	1987	1988
Total Exports	$170,114	$175,638	$209,151	$229,221	$264,917
Food and Live Animals	1,290	1,202	1,366	1,424	1,568
Fish and Fish Products	717	685	766	732	781
Beverages and Tobacco	150	114	110	121	129
Crude Materials (excl. fuels)	1,250	1,240	1,414	1,490	1,761
Textile Fibers and Waste	659	635	695	708	848
Mineral Fuels	505	539	588	782	596
Petroleum Products	289	331	379	550	359
Animal and Vegetable Oils and Fats	148	111	91	85	157
Chemicals	7,626	7,698	9,484	11,662	13,964
Chemical Elements and Compounds	3,121	3,243	3,953	4,979	6,000
Organic Chemicals	2,371	2,512	3,141	4,017	4,892
Inorganic Chemicals	738	720	799	941	1,082
Dyeing, Tanning and Coloring Materials	558	558	707	857	1,028
Pharmaceuticals	356	391	513	589	717
Plastic Materials	2,351	2,261	2,843	3,406	4,002
Manufactured Goods Classified Mainly by Material	30,137	28,836	29,600	30,126	35,213
Tires and Other Rubber Manufactures	1,973	1,895	2,040	2,240	3,085
Tires for Motor Vehicles	1,382	1,302	1,642	1,515	1,780
Paper and Paper Products	994	1,029	1,184	1,407	1,586
Textiles (excl. fibers and apparel)	5,318	4,900	5,445	5,545	5,472
Yarn and Thread	1,168	1,000	1,152	1,118	1,108
Woven Fabrics	3,546	3,361	3,706	3,742	3,598
Made-up Articles (excl. clothing)	604	540	586	686	767
Nonmetallic Mineral Manufactures	2,272	2,148	2,362	2,523	2,936
Glass and Glassware	518	594	686	803	940
Tableware	569	528	566	556	537
Iron and Steel	13,852	13,566	12,706	12,610	15,322
Bars, Rods, Shapes and Sections	1,715	1,777	1,437	1,059	] 2,027
Wire Rods	626	568	639	629	
Universals, Plates and Sheets	5,706	5,209	5,250	6,078	] 8,883
Hoops and Strip	1,468	1,285	1,325	1,474	
Tubes, Pipes and Fittings	3,742	4,023	3,399	2,843	4,190
Nonferrous Metals	1,501	1,467	1,564	1,772	2,142
Copper and Alloys	614	585	721	854	1,083
Aluminum and Alloys	619	615	606	668	622
Metal Manufactures	3,812	3,458	3,913	3,636	4,287
Finished Structural Parts and Structures	751	528	694	441	331
Nails and Industrial Fasteners	603	516	514	519	720
Tools	666	701	897	958	1,183

(continued)

Table 32: Japan's Exports by Commodity, 1984-1988 (continued)

(in millions of dollars, f.o.b. value basis)

	1984	1985	1986	1987	1988
Machinery and Transport Equipment	$102,680	$108,387	$133,326	$149,563	$183,765
Nonelectric Machinery	27,879	29,537	38,381	44,755	56,048
Power Generating Machinery	3,835	3,789	4,940	5,904	6,738
Steam Generating Boilers and Boiler Plants	525	463	567	488	235
Internal Combustion Engines	2,800	2,885	3,842	4,876	5,939
Agricultural Machinery	1,119	1,028	1,183	1,298	1,006
Tractors	841	746	869	920	696
Office Machinery	7,554	7,785	11,305	14,392	18,406
Typewriters	609	555	574	366	258
Calculators	698	660	556	445	426
Data Processing Equipment	4,566	4,625	7,270	9,375	11,393
Metalworking Machinery	2,021	2,599	3,637	3,475	3,927
Lathes	423	524	676	628	783
Textile Machinery	869	1,007	1,384	1,852	2,161
Sewing Machines	526	524	671	861	980
Printing and Bookbinding Machinery	353	445	616	636	837
Construction and Mining Machinery	1,709	1,995	2,187	2,179	2,400
Excavators	813	965	1,062	1,191	1,776
Heating and Cooling Machinery	1,887	1,588	1,793	2,032	2,530
Pumps and Centrifuges	1,671	1,678	1,912	2,159	3,876
Air and Gas Compressors	642	669	740	855	1,520
Mechanical Handling Equipment	1,559	1,609	1,975	1,991	2,583
Bearings	658	651	806	919	1,217
Electric Machinery	29,245	29,701	35,519	40,883	61,975
Electric Power Machinery	2,137	2,058	2,453	2,724	3,405
Generators	630	532	490	469	488
Motors	512	495	681	808	1,155
Switchboards and Control Panels	691	594	810	877	1,066
Insulated Wire and Cable	684	701	744	693	827
Telecommunications Equipment	11,077	12,242	13,644	15,071	*
Televisions	1,905	2,625	1,727	1,422	*
Radios	2,820	2,654	2,756	2,464	*
Microphones, Loudspeakers and Amplifiers	963	981	1,111	1,169	*
Household Electric Appliances	1,817	1,968	1,874	1,713	1,485
Batteries	404	415	579	729	930
Electronic Tubes and Semiconductors	5,816	4,753	6,342	8,312	12,327
Tubes	984	1,002	1,339	1,795	2,242
Discrete Devices	3,248	2,419	3,185	4,212	1,709
Integrated Circuits	n.a.	n.a.	n.a.	n.a.	6,603
Automotive Electrical Equipment	681	724	944	1,146	1,269
Electronic Measuring and Controlling Instruments	964	1,127	1,477	1,681	2,322
Condensers	534	446	654	826	1,131
Transport Equipment	45,556	49,149	59,426	63,925	65,741
Railway Equipment	764	525	365	624	573
Road Motor Vehicles	29,821	34,377	42,676	44,942	48,787
Cars	21,899	25,402	32,945	35,693	38,671
Assembled Trucks and Buses	6,372	7,396	8,022	7,324	9,628
Truck and Bus Chassis with Engines	1,475	1,517	1,633	1,815	350

(continued)

Table 32: Japan's Exports by Commodity, 1984-1988 (continued)

(in millions of dollars, f.o.b. value basis)

	1984	1985	1986	1987	1988
Road Motor Vehicle Parts	$4,513	$5,228	$8,253	$10,714	$9,131
Motorcycles and Parts	2,598	2,626	2,686	2,628	2,368
Bicycles and Parts	343	308	387	402	594
Ships and Boats	7,353	5,929	4,879	4,360	3,947
Tankers	693	634	726	718	769
Cargo Ships	4,481	3,490	2,509	1,805	1,338
Miscellaneous Manufactured Goods	24,655	25,752	31,125	31,599	24,174
Clothing	776	728	734	665	588
Scientific, Medical and Optical Instruments	9,268	10,046	12,408	9,448	10,835
Copying Machines	n.a.	n.a.	n.a.	n.a.	2,324
Cameras Lenses	449	433	542	548	508
Still Cameras	1,217	1,232	1,601	1,617	1,673
Measuring Instruments	607	676	845	945	1,195
Watches and Clocks	1,747	1,730	1,963	1,981	2,365
Stereo Equipment and Audio and Videocassette Recorders and Players	9,222	9,230	11,229	10,085	*
Videocassette Recorders	6,819	6,622	7,416	5,900	*
Photographic Supplies	n.a.	n.a.	n.a.	n.a.	2,577
Film in Rolls	n.a.	n.a.	n.a.	n.a.	783
Phonograph Records and Tapes	1,503	1,665	2,044	1,969	2,041
Musical Instruments	640	688	966	1,31	1,341
Plastic Products	343	377	464	486	556
Office and Stationery Supplies	391	412	528	582	697
Unclassified Commodities	1,674	1,759	2,048	2,369	3,591

*Addendum:

Visual Equipment	12,117
Televisions	1,779
Videocassette Recorders and Players	6,203
Television Cameras	4,136
Audio Equipment	6,373
Radios	2,212
Tape Recorders	1,599
Compact Disk Players	1,328
Microphones, Loudspeakers and Amplifiers	1,235
Parts of Audio-Visual Equipment	3,127
Telephone and Telegraph Equipment	6,629
Facsimile Machines	2,811

Source: Ministry of Finance

Table 33: Japan's Imports by Commodity, 1984-1988

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Total Imports	$136,503	$129,539	$126,408	$149,515	$187,354
Food and Live Animals	15,191	14,787	18,246	20,752	26,960
Meat and Meat Products	1,897	1,927	2,587	3,338	4,313
Fresh and Frozen Beef	455	463	554	800	1,190
Fresh and Frozen Pork	714	703	1,041	1,417	1,653
Fish and Fish Products	4,096	4,610	6,426	7,992	10,461
Fresh and Frozen Shrimp and Lobster	1,354	1,431	1,966	2,510	2,848
Fresh and Frozen Salmon	345	493	571	643	1,070
Grains and Cereal Products	4,743	3,951	3,485	3,160	4,241
Wheat	1,114	974	886	785	1,034
Corn for Mixed Feed	1,669	1,363	1,158	1,101	1,490
Sorghum for Mixed Feed	608	536	462	326	422
Fruits and Vegetables	1,828	1,828	2,364	2,832	3,706
Fruits	1,055	1,135	1,518	1,757	2,128
Vegetables	733	693	846	1,075	1,578
Coffee	770	747	1,130	838	888
Animal Feeds	539	474	671	776	1,225
Beverages and Tobacco	836	760	941	1,643	2,160
Alcoholic Beverages	292	287	372	574	855
Cigarettes	104	107	184	512	751
Crude Materials (excl. fuels)	19,153	17,715	17,292	21,751	27,633
Hides and Skins	568	504	563	585	761
Oilseeds and Oil Nuts	2,210	1,875	1,568	1,617	2,153
Soybeans	1,447	1,206	1,072	1,087	1,426
Rubber	638	544	578	661	965
Logs and Lumber	3,909	3,700	4,044	6,227	7,122
Logs	3,107	2,781	2,923	4,348	4,546
Lumber	803	919	1,106	1,879	2,576
Wood Pulp	1,001	910	1,124	1,441	1,980
Textile Fibers and Waste	2,484	2,155	1,863	2,702	3,309
Wool	675	670	621	1,017	1,447
Cotton	1,342	1,049	817	1,137	1,318
Crude Minerals	1,050	1,088	943	1,069	1,348
Metal Ores, Concentrates and Scrap	6,572	6,232	5,763	6,120	8,488
Iron Ore and Concentrates	3,199	3,045	2,759	2,618	2,853
Steel Scrap	529	407	375	322	436
Nonferrous Ores	2,334	2,229	2,080	2,404	4,104
Copper	1,255	1,209	1,228	1,476	2,472
Nonferrous Scrap	502	546	544	773	1,090
Mineral Fuels	60,337	55,790	36,904	39,137	38,356
Coal	5,311	5,197	4,927	4,634	5,375
Coking Coal	4,386	4,154	3,956	3,582	4,127
Petroleum and Products	45,486	40,575	24,117	27,445	25,807
Crude Petroleum	39,379	34,599	19,481	20,663	18,852
Petroleum Products	6,107	5,976	4,636	6,782	6,955
Residual Fuel Oil	2,130	2,020	1,093	1,477	1,165

(continued)

Table 33: Japan's Imports by Commodity, 1984-1988 (continued)

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Natural and Manufactured Gas	$9,529	$10,006	$7,843	$7,022	$7,128
Liquefied Petroleum Gas	2,935	2,806	2,092	1,970	1,953
Liquefied Methane Gas	6,594	7,200	5,751	5,052	5,170
Animal and Vegetable Oils and Fats	372	329	245	271	407
Chemicals	8,346	8,073	9,733	11,845	14,830
Chemical Elements and Compounds	4,370	4,142	4,566	5,470	6,889
Organic Chemicals	2,423	2,411	2,849	3,494	4,555
Inorganic Chemicals	677	742	767	869	1,130
Dyeing, Tanning and Coloring Materials	324	320	420	542	652
Pharmaceuticals	1,259	1,292	1,724	2,110	2,658
Plastic Materials	763	745	981	1,163	1,474
Manufactured Goods Classified Mainly by Material	11,932	10,886	12,390	18,055	27,340
Tires and Other Rubber Manufactures	177	187	310	437	602
Wood Manufactures	842	838	1,033	1,678	2,071
Plywood	n.a.	n.a.	n.a.	n.a.	610
Wood Chips	645	604	679	819	1,069
Paper and Paper Products	545	545	747	873	1,144
Textiles (excl. fibers and apparel)	1,926	1,891	2,174	2,975	3,929
Nonmetallic Mineral Manufactures	1,201	1,264	1,927	2,847	4,150
Diamonds	558	567	939	1,429	2,078
Iron and Steel	1,912	1,480	1,762	2,484	4,625
Ferroalloys	588	524	532	581	1,103
Universals, Plates and Sheets	540	347	429	607	2,201
Nonferrous Metals	4,700	4,042	3,655	5,644	9,312
Precious Metals	848	713	825	1,414	1,712
Copper and Alloys	816	592	473	691	1,274
Aluminum and Alloys	2,076	1,861	1,641	2,669	5,030
Metal Manufactures	507	512	637	882	1,245
Machinery and Transport Equipment	10,809	11,106	13,283	17,264	24,727
Nonelectric Machinery	4,495	4,728	5,318	6,746	9,322
Power Generating Machinery	939	896	897	1,136	1,292
Aircraft Engines	458	630	666	813	924
Office Machinery	1,362	1,545	1,706	2,218	3,279
Computers, Peripheral Equipment and Parts	1,318	1,509	1,671	2,169	3,210
Pumps and Centrifuges	315	317	327	408	521
Electric Machinery	3,989	3,795	4,506	5,894	9,289
Electric Power Machinery	324	333	377	470	731
Electronic Tubes and Semiconductors	1,294	1,016	1,216	1,531	2,284
Integrated Circuits	n.a.	n.a.	n.a.	n.a.	1,758
Telecommunications Equipment	465	438	619	975	*
Electronic Measuring and Controlling Instruments	598	643	762	918	1,530
Transport Equipment	2,325	2,583	3,459	4,624	6,117
Cars	457	539	1,070	2,031	3,038
Aircraft	928	1,484	1,777	1,742	2,024
Ships and Boats	645	286	231	269	257

(continued)

Table 33: Japan's Imports by Commodity, 1984-1988 (continued)

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Miscellaneous Manufactured Goods	$6,088	$6,349	$8,634	$13,396	$18,702
Furniture	307	318	431	665	1,033
Travel Goods and Handbags	181	192	327	514	778
Clothing	1,949	1,995	2,853	4,649	6,702
Footwear	380	391	490	784	1,108
Scientific, Medical and Optical Instruments	947	929	952	1,208	1,310
Watches and Clocks	257	251	330	427	624
Photographic Supplies	339	342	431	489	584
Sporting Goods	256	286	374	558	810
Art Works and Antiques	194	244	411	989	1,712
Unclassified Commodities	3,439	3,744	8,742	5,402	6,240
Nonmonetary Gold	2,246	2,027	6,984	3,467	4,102
*Addendum:					
Audio-Visual Equipment and Parts					1,421
Telephone and Telegraph Equipment					513

Source: Ministry of Finance

Table 34: Japan's Dollar-Based Trade with the United States, 1984-1988

(in millions of dollars, customs clearance basis, seasonally unadjusted)

		Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		$59,937	39.9%	$26,862	9.0%	$33,075
1985		65,278	8.9	25,793	-4.0	39,485
1986		80,456	23.3	29,054	12.6	51,401
1987		83,580	3.9	31,491	8.4	52,090
1988		89,634	7.2	42,037	33.5	47,597
1987	January	5,598	15.0	2,320	12.9	3,278
	February	6,212	8.5	2,246	11.9	3,966
	March	6,191	3.0	2,420	9.2	3,771
	April	7,429	5.8	2,300	1.1	5,129
	May	6,955	0.2	2,509	-13.7	4,445
	June	6,797	-2.4	2,783	-10.8	4,014
	July	7,638	2.0	2,849	-4.3	4,789
	August	6,396	-1.5	2,670	28.0	3,727
	September	7,593	4.1	2,733	11.0	4,860
	October	7,731	3.0	2,749	8.9	4,982
	November	7,018	1.8	2,809	40.4	4,209
	December	8,021	12.0	3,102	28.1	4,919
1988	January	5,851	4.5	2,878	24.0	2,973
	February	6,816	9.7	[illegible]423	52.4	3,393
	March	7,192	16.2	[illegible],789	56.6	3,404
	April	7,354	-1.0	[illegible],223	40.1	4,132
	May	6,908	-0.6	3,509	39.9	3,398
	June	7,349	8.1	3,727	33.9	3,622
	July	7,961	4.2	3,471	21.8	4,490
	August	6,982	9.2	3,737	40.0	3,245
	September	8,113	6.8	3,459	26.6	4,654
	October	8,352	8.0	3,531	28.4	4,821
	November	8,063	14.9	3[illegible]	29.5	4,426
	December	8,695	8.4	[illegible]4	17.8	5,041

Source: Ministry of Finance

Table 35: Japan's Yen-Based Trade with the United States, 1984-1988

(in billions of yen, customs clearance basis, seasonally unadjusted)

		Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		Y14,221	39.7%	Y6,364	8.7%	Y7,858
1985		15,583	9.6	6,213	-2.4	9,369
1986		13,564	-13.0	4,918	-20.9	8,646
1987		12,148	-10.4	4,582	-6.8	7,566
1988		11,487	-5.4	5,388	17.6	6,099
1987	January	887	-11.4	369	-11.1	518
	February	949	-14.2	343	-11.7	606
	March	950	-12.3	371	-7.0	579
	April	1,091	-13.0	338	-16.8	753
	May	974	-15.9	351	-27.8	623
	June	970	-17.6	397	-24.9	573
	July	1,130	-7.4	421	-13.3	709
	August	965	-4.2	403	24.5	562
	September	1,085	-3.8	391	2.7	694
	October	1,117	-3.5	398	2.1	720
	November	971	-12.2	389	21.3	581
	December	1,061	-9.0	411	4.4	649
1988	January	739	-16.7	363	-1.7	376
	February	877	-7.6	440	28.3	437
	March	925	-2.6	488	31.3	438
	April	924	-15.3	405	19.8	520
	May	862	-11.5	438	24.7	424
	June	920	-5.1	467	17.6	454
	July	1,045	-7.5	456	8.3	589
	August	930	-3.7	498	23.6	432
	September	1,089	0.3	464	18.8	624
	October	1,103	-1.3	468	17.8	635
	November	1,010	4.1	456	17.2	554
	December	1,064	0.3	447	8.5	617

Source: Ministry of Finance

Table 36: Yen-Dollar Exchange Rate Used to Convert Customs Clearance Trade Data, 1984-1988*

		Exports	Imports
1984	Average	Y236.95	Y236.91
1985	Average	240.29	240.17
1986	Average	169.99	170.08
1987	Average	145.90	146.01
1988	Average	128.13	128.15
1987	January	158.43	159.01
	February	152.83	152.70
	March	153.43	153.47
	April	146.83	146.97
	May	139.98	139.91
	June	142.67	142.58
	July	147.89	147.81
	August	150.83	150.83
	September	142.94	143.02
	October	144.50	144.59
	November	138.28	138.52
	December	132.21	132.65
1988	January	126.24	126.01
	February	128.65	128.57
	March	128.65	128.72
	April	125.70	125.64
	May	124.75	124.76
	June	125.24	125.23
	July	131.31	131.40
	August	133.13	133.12
	September	134.18	134.21
	October	132.04	132.58
	November	125.30	125.36
	December	122.34	122.21

*Reflects the exchange rate that prevailed at the time export or import contracts were signed.

Source: Ministry of Finance

Table 37: Yen-Dollar Exchange Rate on Tokyo Foreign Exchange Market, 1984-1988

(average for period)

	1984	1985	1986	1987	1988
Average	Y237.52	Y238.54	Y168.52	Y144.64	Y128.15
January	233.94	254.18	200.07	154.48	127.56
February	233.68	260.24	184.64	153.48	129.16
March	225.40	258.63	178.93	151.54	127.28
April	224.95	251.67	175.62	142.98	124.93
May	230.66	251.54	166.83	140.54	124.77
June	233.21	248.99	167.95	144.48	127.14
July	242.84	241.75	158.60	150.21	133.07
August	242.30	237.21	154.00	147.56	133.63
September	245.23	236.95	154.72	143.00	134.44
October	246.79	214.73	155.95	143.54	129.02
November	243.32	203.72	162.64	135.25	123.19
December	247.95	202.82	162.29	128.59	123.63

Source: International Monetary Fund

Table 38: Japan's Foreign Direct Investment by Country, FY 1984-FY 1988

(in millions of dollars)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	Total March 31, 1989
United States	$3,360	$5,395	$10,165	$14,704	$21,704	$71,860
Canada	184	100	276	653	626	3,231
North America	3,544	5,495	10,441	15,357	22,328	75,091
Indonesia	374	408	250	545	586	9,804
Hong Kong	412	131	502	1,072	1,662	6,167
Singapore	225	339	302	494	747	3,812
Korea	107	134	436	647	483	3,248
China	114	100	226	1,226	296	2,036
Thailand	119	48	124	250	859	1,992
Malaysia	142	79	158	163	387	1,834
Taiwan	65	114	291	367	372	1,791
Philippines	46	61	21	72	134	1,120
Asia	1,628	1,435	2,327	4,868	5,569	32,227
Panama	1,671	1,533	2,401	2,305	1,712	12,858
Brazil	318	314	270	229	510	5,596
Caymans	1	132	930	1,197	2,609	5,085
Bahamas	97	298	792	734	737	2,718
Mexico	56	101	226	28	87	1,671
Bermuda	29	148	16	36	337	991
Netherlands Antilles	66	62	66	199	172	747
Peru	6	10	---	1	---	696
Latin America	2,290	2,616	4,737	4,816	6,428	31,617
United Kingdom	318	375	984	2,473	3,956	10,554
Netherlands	452	613	651	829	2,359	5,525
Luxembourg	315	300	1,092	1,764	657	4,729
West Germany	245	172	210	403	409	2,364
France	117	67	152	330	463	1,764
Switzerland	229	60	91	224	454	1,432
Spain	140	91	86	283	161	1,045
Belgium	71	84	50	70	164	1,027
Europe	1,937	1,930	3,469	6,576	9,116	30,164
Australia	105	468	881	1,222	2,413	8,137
Oceania	157	525	992	1,413	2,669	9,315
Liberia	281	159	289	267	648	3,658
Africa	326	172	309	272	653	4,604
Kuwait	55	34	41	54	20	1,383
Iran	0	0	---	---	1	1,005
Middle East	273	45	44	62	259	3,338
Total	10,155	12,217	22,320	33,364	47,022	186,356

Source: Ministry of Finance

Table 39: Japan's Foreign Direct Investment by Industry, FY 1984-FY 1988

(in millions of dollars)

	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	Total March 31, 1989
Manufacturing Sector	$2,505	$2,352	$3,806	$7,832	$13,805	$49,843
Food Products	118	90	127	328	419	1,965
Textiles	85	28	63	206	317	2,669
Wood and Paper Products	115	15	57	317	604	2,099
Chemicals	223	133	355	910	1,293	6,540
Metals	718	385	328	786	1,367	7,671
Nonelectric Machinery	185	352	626	687	1,432	4,716
Electric Machinery	409	513	987	2,421	3,041	10,196
Transport Equipment	437	627	828	1,473	1,281	6,956
Other	215	208	435	703	4,051	7,031
Nonmanufacturing Sector	7,429	9,536	17,949	25,080	32,634	131,999
Agriculture and Forestry	26	12	15	97	162	1,054
Fisheries	24	42	52	44	94	632
Mining	484	598	669	511	1,013	13,949
Construction	112	94	250	87	309	1,443
Trade and Sales	1,482	1,550	1,861	2,269	3,204	20,011
Banking, Finance and Insurance	2,085	3,805	7,240	10,673	13,104	41,876
Services	681	665	1,560	2,780	3,732	12,759
Transportation	1,651	1,240	1,925	2,145	2,372	12,342
Real Estate	430	1,207	3,997	5,428	8,641	20,599
Other	454	322	379	1,047	3	7,334
Branch Offices	221	329	566	452	584	3,919
Other Transactions*	---	---	---	---	---	595
Total	10,155	12,217	22,320	33,364	47,022	186,356

*Certain overseas real estate transactions have been excluded from Japan's foreign direct investment data since December 1, 1980 because of changes in the Foreign Exchange and Foreign Trade Control Law.

Source: Ministry of Finance

Table 40: U.S. International Transactions, 1984-1988

(in millions of dollars, IMF value basis)

	1984	1985	1986	1987	1988
Merchandise Trade Balance	$-112,522	$-122,148	$-145,058	$-159,500	$-127,215
Exports	219,900	215,935	223,367	250,266	319,251
Imports	332,422	338,083	368,425	409,766	446,466
Services Balance	20,805	24,892	27,588	30,012	15,323
Military	-2,099	-3,557	-4,576	-2,857	-4,606
Travel	-4,956	-6,580	-5,546	-5,710	-2,910
Other Transportation	-2,929	-3,252	-2,485	-1,614	277
Investment Income	18,489	25,931	21,647	22,283	2,227
Direct	11,988	27,123	33,154	45,254	31,516
Other	6,501	-1,192	-11,507	-22,971	-29,288
Fees and Royalties	4,674	5,104	6,192	7,705	8,687
Other Services	7,625	7,247	12,355	10,204	11,648
Unilateral Transfers Balance	-12,468	-15,426	-15,778	-14,212	-14,656
Current Account Balance	-104,186	-112,682	-133,249	-143,700	-126,548
Private Capital Flows (net)	85,796	105,146	88,057	86,484	98,875
Direct Investments (net)	22,538	954	7,779	2,700	40,903
Securities (net)	30,813	63,914	70,507	29,226	38,746
Banking Flows (net)	22,722	39,722	19,808	46,907	14,351
Other Flows (net)	9,723	557	-10,037	7,651	4,874
U.S. Government Assets (other than official reserves) (net)	-5,489	-2,821	-2,024	997	2,999
U.S. Official Reserve Assets (net)	-3,131	-3,858	312	9,149	-3,566
Foreign Official Assets (net)	3,140	-1,083	35,594	45,193	38,882
Statistical Discrepancy	23,869	15,298	11,308	1,878	-10,641

Note: For capital transactions, credits (+) indicate net inflows and debits (-) indicate net outflows.

Source: Department of Commerce

Table 41: U.S. Current Account Balance with Japan, 1984-1988

(in millions of dollars, IMF value basis)

	1984	1985	1986	1987	1988
Merchandise Trade Balance	$-36,969	$-43,508	$-54,398	$-56,959	$-52,612
Exports	23,241	22,145	26,354	27,619	37,148
Imports	60,210	65,653	80,752	84,578	89,760
Services Balance	-756	-1,631	694	1,690	2,740
Military	-1,035	-1,264	-1,830	-1,684	-1,646
Travel	1,396	1,465	2,542	2,419	3,133
Other Transportation	-471	-580	-727	254	473
Investment Income	-1,613	-2,381	-1,628	-1,880	-2,714
Direct	-1,154	56	2,378	3,027	1,792
Other	-459	-2,437	-4,005	-4,908	-4,506
Fees and Royalties	835	936	1,066	1,609	2,059
Other Services	132	193	1,271	971	1,434
Unilateral Transfers Balance	-67	-68	-87	-97	-103
Current Account Balance	-37,792	-45,208	-53,792	-55,366	-49,975

Source: Department of Commerce

Table 42: U.S. Exports and Imports, 1984-1988*

(in millions of dollars, seasonally unadjusted)

		Exports (f.a.s.)	Change Over Year-Earlier Period	Imports (Customs)	Change Over Year-Earlier Period	Trade Balance	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		$217,888	8.7%	$325,726	26.2%	$-107,838	$341,177	26.4%	$-123,289
1985		213,146	-2.2	345,275	6.0	-132,129	361,626	6.0	-148,480
1986		227,159	6.6	365,438	5.8	-138,279	382,295	5.7	-155,137
1987		254,122	11.9	406,241	11.2	-152,119	424,442	11.0	-170,320
1988		322,225	26.8	440,940	8.5	-118,716	459,565	8.3	-137,340
1987	January	17,346	-1.5	30,799	3.5	-13,453	32,167	3.3	-14,821
	February	18,854	4.4	29,810	10.1	-10,956	31,124	10.0	-12,270
	March	21,836	12.4	32,464	10.5	-10,629	33,927	10.4	-12,091
	April	20,678	8.6	32,291	5.3	-11,613	33,778	5.4	-13,100
	May	20,760	6.6	33,170	9.9	-12,411	34,672	9.9	-13,913
	June	21,637	5.6	35,358	15.1	-13,721	36,928	15.0	-15,291
	July	21,379	13.5	35,810	12.3	-14,431	37,455	12.0	-16,076
	August	20,079	15.9	33,826	14.7	-13,747	35,389	14.4	-15,310
	September	21,184	19.1	33.668	8.9	-12,484	35,159	8.5	-13,975
	October	22,778	11.9	38,076	23.1	-15,298	39,765	15.8	-16,987
	November	23,279	20.3	35,211	8.4	-11,932	36,739	8.3	-13,460
	December	24,314	25.2	35,759	19.0	-11,444	37,340	18.8	-13,026
1988	January	22,990	32.5	32,995	7.1	-10,005	34,523	7.3	-11,533
	February	24,139	28.0	35,569	19.3	-11,430	37,133	19.3	-12,994
	March	29,106	33.3	37,030	14.1	-7,924	38,633	13.9	-9,528
	April	26,335	27.4	35,027	8.5	-8,692	36,528	8.1	-10,193
	May	28,143	35.6	36,147	9.0	-8,004	37,657	8.6	-9,514
	June	26,839	24.0	38,590	9.1	-11,751	40,158	8.7	-13,319
	July	25,098	17.4	35,583	-0.6	-10,485	37,084	-1.0	-11,986
	August	26,538	32.2	37,741	11.6	-11,203	39,370	11.2	-12,832
	September	27,237	28.6	36,459	8.3	-9,223	37,935	7.9	-10,698
	October	28,625	25.7	38,731	1.7	-10,107	40,286	1.3	-11,661
	November	27,855	19.7	38,340	8.9	-10,485	39,902	8.6	-12,047
	December	29,322	20.6	38,729	8.3	-9,407	40,357	8.1	-11,036

*The export and import data for 1986 through 1988 reflect revisions not incorporated in other tables. The export statistics cover domestic and foreign merchandise, including Department of Defense shipments.

Source: Department of Commerce

Table 43: U.S. Exports by Major Market, 1984-1988

(in millions of dollars, f.a.s. value basis)

	1984	1985	1986	1987	1988
Total	$217,888	$213,146	$217,304	$252,866	$320,385
Western Hemisphere	76,209	78,271	76,411	94,795	113,155
Canada	46,524	47,251	45,333	59,814	69,233
Mexico	11,992	13,635	12,392	14,582	20,643
Venezuela	3,377	3,399	3,141	3,586	4,611
Brazil	2,640	3,140	3,885	4,040	4,289
Colombia	1,450	1,468	1,319	1,412	1,758
Asia and Middle East	61,506	56,869	61,396	69,746	94,650
Japan	23,575	22,631	26,882	28,249	37,732
Taiwan	5,003	4,700	5,524	7,413	12,131
Korea	5,983	5,956	6,355	8,099	11,290
Singapore	3,675	3,476	3,380	4,053	5,770
Hong Kong	3,062	2,786	3,030	3,983	5,691
Saudi Arabia	5,564	4,474	3,449	3,373	3,799
Israel	2,194	2,580	2,239	3,130	3,248
India	1,570	1,642	1,536	1,463	2,498
Malaysia	1,856	1,539	1,730	1,897	2,139
Thailand	1,113	849	936	1,544	1,964
Philippines	1,766	1,379	1,363	1,599	1,880
Indonesia	1,216	795	946	767	1,056
Western Europe	58,019	56,763	61,642	69,718	87,995
United Kingdom	12,210	11,273	11,418	14,114	18,404
West Germany	9,084	9,050	10,561	11,748	14,331
Netherlands	7,554	7,269	7,848	8,217	10,095
France	6,037	6,096	7,216	7,943	10,086
Belgium-Luxembourg	5,301	4,918	5,399	6,189	7,406
Italy	4,375	4,625	4,838	5,530	6,782
Spain	2,561	2,524	2,615	3,148	4,217
Ireland	1,354	1,342	1,434	1,810	2,182
European Community*	46,976	45,776	53,154	60,575	75,926
Switzerland	2,563	2,288	2,977	3,151	4,207
Sweden	1,542	1,925	1,871	1,894	2,705
Communist Countries	7,214	7,091	5,125	5,721	8,704
China	3,004	3,856	3,106	3,497	5,039
Soviet Union	3,284	2,423	1,248	1,480	2,768
Australia and Oceania	5,745	6,399	6,659	6,526	8,242
Australia	4,793	5,441	5,551	5,495	6,981
Africa	8,827	7,388	5,978	6,283	7,431
South Africa	2,265	1,205	1,158	1,281	1,690
Nigeria	577	676	409	295	356

*1984 and 1985 figures exclude Spain and Portugal.

Source: Department of Commerce

Table 44: U.S. Imports by Major Supplier, 1984-1988

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Total	$341,177	$361,626	$387,082	$424,082	$459,925
Western Hemisphere	116,974	118,523	112,774	120,605	135,135
Canada	66,911	69,427	68,662	71,510	81,434
Mexico	18,267	19,392	17,558	20,520	23,545
Venezuela	6,820	6,830	5,446	5,881	5,579
Brazil	8,273	8,147	7,340	8,433	9,977
Colombia	1,253	1,456	2,039	2,414	2,350
Asia and Middle East	124,664	135,840	157,426	177,283	191,089
Japan	60,371	72,380	85,457	88,074	93,168
Taiwan	16,088	17,761	21,252	26,407	26,256
Korea	10,027	10,713	13,497	17,991	21,209
Singapore	4,121	4,412	4,884	6,395	8,226
Hong Kong	8,899	8,994	9,474	10,490	10,810
Saudi Arabia	4,009	2,027	4,054	4,887	6,237
Israel	1,809	2,201	2,505	2,724	3,068
India	2,737	2,478	2,465	2,725	3,167
Malaysia	2,825	2,399	2,534	3,053	3,853
Thailand	1,426	1,543	1,873	2,387	3,424
Philippines	2,62[illegible]	2,334	2,150	2,481	2,906
Indonesia	5,866	4,933	3,675	3,719	3,494
Western Europe	74,921	84,209	94,297	99,934	105,035
United Kingdom	15,044	15,573	16,033	17,998	18,740
West Germany	17,810	21,232	26,128	28,028	27,421
Netherlands	4,330	4,368	4,363	4,236	4,874
France	8,516	9,960	10,586	11,177	12,689
Belgium-Luxembourg	3,287	3,567	4,191	4,359	4,719
Italy	8,504	10,381	11,312	11,698	12,277
Spain	2,627	2,774	2,956	3,101	3,470
Ireland	874	94[illegible]	1,046	1,155	1,425
European Community*	60,267	68,24[illegible]	79,520	84,876	88,748
Switzerland	3,199	3,5[illegible]	5,367	4,363	4,745
Sweden	3,427	4,[illegible]	4,637	4,981	5,217
Communist Countries	5,736	6,342	7,447	9,030	11,657
China	3,381	4,224	5,241	6,911	9,270
Soviet Union	600	443	606	470	649
Australia and Oceania	3,885	4,170	4,080	4,550	5,299
Australia	2,899	3,069	2,873	3,287	3,856
Africa	14,905	12,543	11,057	12,680	11,710
South Africa	2,577	2,180	2,476	1,399	1,589
Nigeria	2,606	3,108	2,681	3,767	3,536

*1984 and 1985 figures exclude Spain and Portugal.

Source: Department of Commerce

Table 45: U.S. Trade Balance with Major Trading Partners, 1984-1988

(in millions of dollars; exports f.a.s., imports c.i.f.)

	1984	1985	1986	1987	1988
Total	$-123,289	$-148,480	$-169,777	$-171,217	$-139,539
Western Hemisphere	-40,766	-40,252	-36,364	-25,810	-21,981
Canada	-20,387	-22,176	-23,330	-11,696	-12,201
Mexico	-6,275	-5,757	-5,167	-5,938	-2,901
Venezuela	-3,443	-3,431	-2,305	-2,295	-968
Brazil	-5,633	-5,007	-3,455	-4,393	-5,687
Colombia	197	12	-720	-1,003	-591
Asia and Middle East	-63,158	-78,971	-96,031	-107,538	-96,438
Japan	-36,796	-49,749	-58,575	-59,825	-55,436
Taiwan	-11,085	-13,061	-15,727	-18,994	-14,126
Korea	-4,044	-4,757	-7,142	-9,892	-9,920
Singapore	-446	-936	-1,504	-2,342	-2,456
Hong Kong	-5,837	-6,208	-6,444	-6,507	-5,119
Saudi Arabia	1,555	2,447	-606	-1,513	-2,438
Israel	385	379	-267	406	180
India	-1,167	-836	-928	-1,262	-665
Malaysia	-969	-860	-805	-1,157	-1,714
Thailand	-313	-694	-937	-833	-1,459
Philippines	-856	-955	-787	-882	-1,026
Indonesia	-4,652	-4,138	-2,730	-2,952	-2,438
Western Europe	-16,902	-27,446	-32,655	-30,216	-17,040
United Kingdom	-2,834	-4,300	-4,614	-3,884	-337
West Germany	-8,726	-12,182	-15,568	-16,281	-13,089
Netherlands	3,224	2,901	3,485	3,981	5,221
France	-2,479	-3,864	-3,370	-3,233	-2,603
Belgium-Luxembourg	2,014	1,351	1,208	1,830	2,687
Italy	-4,129	-5,756	-6,473	-6,168	-5,495
Spain	-66	-250	-341	47	747
Ireland	480	400	388	655	757
European Community*	-13,291	-22,470	-26,366	-24,301	-12,822
Switzerland	-636	-1,291	-2,391	-1,212	-538
Sweden	-1,885	-2,414	-2,766	-3,088	-2;512
Communist Countries	1,479	749	-2,322	-3,309	-2,952
China	-377	-368	-2,134	-3,413	-4,231
Soviet Union	2,684	1,980	642	1,010	2,119
Australia and Oceania	1,860	2,229	2,578	1,976	2,943
Australia	1,894	2,372	2,679	2,208	3,125
Africa	-6,169	-5,155	-5,079	-6,396	-4,279
South Africa	-312	-975	-1,318	-118	101
Nigeria	-2,029	-2,432	-2,272	-3,472	-3,179

*1984 and 1985 figures exclude Spain and Portugal.

Source: Department of Commerce

Table 46: U.S. Exports by Commodity, 1984-1988

(in millions of dollars, f.a.s. value basis)

	1984	1985	1986	1987	1988
Total Exports*	$212,057	$206,925	$206,376	$243,859	$308,014
Agricultural Commodities	37,813	29,242	26,061	28,636	37,015
Nonagricultural Commodities	174,245	177,684	180,315	215,223	270,998
Food and Live Animals	24,463	19,268	17,[illegible]3	19,179	26,415
Meat and Meat Products	1,208	1,153	1,424	1,768	2,430
Fish and Fish Products	850	1,016	1,297	1,588	2,177
Grain and Cereal Products	16,076	11,050	7,368	8,058	12,281
Wheat	6,477	3,601	3,010	3,045	4,885
Corn	7,081	5,319	2,718	3,314	5,191
Sorghum	880	839	389	406	685
Rice	845	665	621	576	802
Vegetables and Fruits	2,435	2,377	2,657	2,956	3,488
Animal Feeds	2,226	1,891	2,622	2,692	3,426
Beverages and Tobacco	2,849	2,958	2,920	3,667	4,548
Unmanufactured Tobacco	1,511	1,521	1,210	1,091	1,252
Cigarettes	1,120	1,180	1,298	2,047	2,645
Inedible Crude Materials	20,249	16,940	17,324	20,416	25,135
Hides and Skins	1,171	1,088	1,314	1,450	1,639
Soybeans	5,438	3,906	4,334	4,343	4,816
Rubber	624	584	649	761	858
Logs and Lumber	2,042	2,037	2,240	3,008	4,087
Paper Base Stocks	2,144	1,946	2,318	3,084	4,002
Raw Cotton	2,441	1,633	773	1,631	1,975
Steel Scrap	918	917	1,054	967	1,352
Nonferrous Ores and Scrap	1,508	1,534	1,543	1,853	2,732
Mineral Fuels	9,311	9,971	8,115	7,713	8,186
Bituminous Coal	4,090	4,398	3,862	3,310	3,960
Petroleum and Products	4,470	4,707	3,640	3,922	3,679
Animal and Vegetable Oils and Fats	1,922	1,434	1,015	981	1,454
Chemicals	22,336	21,759	22,766	26,381	32,300
Chemical Elements and Compounds	9,699	9,290	9,367	10,679	12,950
Organic Chemicals	6,093	6,012	6,293	7,550	9,381
Inorganic Chemicals	3,605	3,278	3,073	3,129	3,569
Pharmaceuticals	2,628	2,708	3,090	3,182	3,941
Fertilizers	1,815	2,160	1,935	2,259	2,498
Plastic Materials	4,050	3,777	4,301	5,493	7,277
Manufactured Goods Classified Chiefly by Material	15,140	14,009	14,005	17,136	22,845
Tires and Tubes	392	343	315	514	772
Paper and Paper Products	2,620	2,329	2,602	3,180	3,892
Textiles (excl. clothing)	2,382	2,366	2,570	2,933	3,650
Nonmetallic Mineral Products	1,865	1,821	1,886	2,289	2,861

(continued)

Table 46: U.S. Exports by Commodity, 1984-1988 (continued)

(in millions of dollars, f.a.s. value basis)

	1984	1985	1986	1987	1988
Steel Mill Products	$1,248	$1,152	$1,020	$1,223	$2,017
Nonferrous Metals and Alloys	1,634	1,472	1,195	1,699	3,041
Aluminum and Alloys	990	937	816	1,202	2,116
Metal Manufactures	3,602	3,253	3,008	3,534	4,373
Machinery and Transport Equipment	89,973	94,278	95,290	108,596	135,135
Machinery	60,318	59,488	60,397	69,637	88,432
Power Generating Machinery	9,114	9,272	9,165	10,193	12,818
Aircraft Engines and Parts	3,011	3,316	3,694	4,420	5,502
Automotive Engines and Parts	2,410	2,494	2,269	2,335	2,819
Agricultural Machinery and Parts	1,740	1,601	1,421	1,493	1,956
Construction Equipment and Parts	761	820	714	773	920
Mining and Drilling Machinery and Parts	2,637	2,922	2,355	1,705	2,144
Textile and Sewing Machinery	520	498	554	661	820
Printing and Bookbinding Machinery and Parts	465	439	487	628	806
Metalworking Machinery	1,175	1,249	1,467	1,606	1,925
Heating and Cooling Machinery and Parts	1,888	1,791	1,740	2,000	2,623
Pumps and Parts	962	933	849	928	1,111
Centrifuges and Filtering and Purifying Machinery and Parts	628	537	515	639	945
Computers, Peripherals and Parts	13,352	13,841	14,514	17,495	21,851
Telecommunications Equipment	3,943	4,167	4,408	5,085	6,544
Other Electric Machinery and Parts	13,855	12,489	13,630	16,637	21,602
Electric Power Apparatus	2,790	2,616	2,800	3,243	4,206
Household Appliances	626	551	542	742	1,140
Transport Equipment	29,655	34,790	34,893	38,959	46,703
Cars	4,868	6,020	6,254	6,689	8,312
Trucks and Buses	1,686	2,183	2,257	2,704	2,998
Automotive Parts (excl. engines, tires and electrical parts)	3,994	9,376	8,492	9,657	11,268
Tractor Parts	1,146	1,085	866	960	1,206
Commercial Aircraft	4,147	6,694	7,366	7,517	10,295
Military Aircraft	1,581	2,012	1,502	2,628	2,157
Aircraft Parts	5,061	5,580	6,111	6,645	7,387
Miscellaneous Manufactured Goods	15,699	15,338	16,629	19,409	24,514
Furniture	622	560	534	624	837
Clothing	807	754	899	1,156	1,574
Professional, Scientific and Medical Equipment and Measuring and Controlling Instruments	6,198	6,505	6,732	7,388	8,889
Photographic Supplies	1,464	1,313	1,418	1,472	1,589
Printed Material	1,391	1,279	1,342	1,562	1,918
Miscellaneous Plastic and Rubber Products	1,311	1,247	1,293	1,599	2,072
Toys and Sporting Goods	674	579	628	885	1,272
Musical Instruments and Parts	927	898	1,112	1,487	2,179
Unclassified Commodities	10,116	10,971	11,011	20,381	27,483

*Domestic merchandise only, including Department of Defense shipments.

Source: Department of Commerce

Table 47: U.S. Imports by Commodity, 1984-1988

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Total Imports	$341,177	$361,626	$387,082	$424,082	$459,925
Agricultural Commodities	21,522	22,020	23,176	22,624	23,133
Nonagricultural Commodities	319,605	339,607	363,906	401,458	436,792
Food and Live Animals	19,428	20,292	22,395	22,224	21,771
Cattle	279	301	422	417	595
Meat and Meat Products	2,232	2,472	2,601	3,038	3,001
Fish and Fish Products	3,859	4,202	4,933	5,872	5,606
Grains and Animal Feeds	662	767	803	880	1,080
Vegetables and Fruits	4,447	4,619	4,825	5,133	5,328
Sugar	1,333	1,002	717	481	482
Coffee	3,215	3,284	4,432	2,846	2,404
Beverages and Tobacco	4,007	4,124	4,226	4,461	4,481
Alcoholic Beverages	3,147	3,298	3,362	3,554	3,686
Unmanufactured Tobacco	666	571	626	624	473
Inedible Crude Materials	11,882	11,167	11,176	12,299	14,244
Crude Rubber	915	746	691	837	1,104
Lumber	2,952	3,195	3,268	3,464	3,279
Paper Base Stocks	1,907	1,572	1,659	2,132	2,696
Textile Fibers and Waste	417	377	386	470	553
Iron Ore and Concentrates	628	561	549	478	569
Nonferrous Ores and Concentrates	1,775	1,418	1,140	1,303	1,766
Bauxite	1,350	1,071	875	941	1,247
Mineral Fuels	63,297	55,843	39,838	46,724	44,097
Petroleum and Products	58,167	51,471	36,550	43,936	41,051
Crude Petroleum	37,945	34,124	24,181	30,840	27,748
Petroleum Products	20,222	17,3481	12,369	13,096	13,303
Fuel Oil	10,907	8,100	5,879	6,442	6,433
Natural and Manufactured Gas	4,964	4,176	3,092	2,581	2,666
Animal and Vegetable Oils and Fats	742	730	581	630	918
Chemicals	14,401	15,321	15,804	17,037	20,817
Chemical Elements and Compounds	8,093	8,386	8,393	8,884	11,066
Organic Chemicals	4,489	4,833	4,968	5,686	7,281
Inorganic Chemicals	3,603	3,554	3,425	3,199	3,784
Pharmaceuticals	951	1,108	1,267	1,484	1,891
Fertilizers	1,221	1,049	953	868	1,109
Manufactured Goods Classified Chiefly by Material	49,018	49,499	51,700	56,364	64,772
Leather	432	425	437	598	787
Tires and Tubes	1,983	2,086	2,129	2,443	2,634
Plywood and Veneers	879	905	994	1,197	1,194
Paper and Paper Products	5,822	6,248	6,630	7,613	8,656
Newsprint	3,370	3,720	3,760	4,209	4,557

(continued)

Table 47: U.S. Imports by Commodity, 1984-1988 (continued)

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Textiles (excl. clothing)	$4,874	$5,274	$6,151	$6,927	$6,748
Yarn and Thread	558	574	736	782	747
Cotton Fabrics	935	892	1,064	1,363	1,037
Glass, Glassware and Tableware	2,176	2,406	2,699	3,094	3,186
Gem Diamonds	2,917	3,020	3,476	3,442	4,325
Steel Mill Products	11,146	10,614	8,900	9,178	11,084
Wire Rods and Bars	2,053	1,963	1,758	1,885	2,210
Plates and Sheets	4,958	4,615	4,170	4,375	4,817
Tubes, Pipes and Fittings	2,882	2,671	1,732	1,620	2,514
Nonferrous Metals and Alloys	8,350	7,172	7,881	8,154	10,458
Precious Metals	1,916	1,634	1,951	1,618	1,751
Copper and Alloys	1,570	1,195	1,428	1,597	2,144
Nickel and Alloys	608	614	522	581	1,227
Aluminum and Alloys	2,522	2,066	2,833	2,928	3,503
Lead and Alloy	657	532	514	609	867
Metal Manufactures	6,347	7,022	7,575	8,512	9,532
Machinery and Transport Equipment	123,104	141,721	166,240	182,807	201,938
Machinery	70,657	77,717	90,101	102,262	120,242
Power Generating Machinery	7,465	9,051	9,997	11,068	13,034
Agricultural Machinery and Tractors	1,577	1,499	1,648	1,900	2,189
Textile and Sewing Machinery	1,336	1,155	1,502	1,875	2,153
Metalworking Machinery	2,116	2,886	3,385	3,090	3,446
Office Machinery and Computers	11,175	11,917	15,114	19,027	23,143
Telecommunications Equipment	16,423	19,114	21,157	21,272	22,[illegible]98
Radio Sets	1,056	1,025	870	936	955
Television Sets	2,246	2,327	2,762	2,525	2,256
Stereo Equipment and Audio and Videocassette Recorders	4,369	6,038	6,827	5,557	5,499
Other Electric Machinery and Parts	18,789	18,192	20,718	25,091	31,766
Transport Equipment	52,447	64,003	76,140	80,546	81,696
Road Motor Vehicles	37,830	47,009	56,275	58,604	56,654
Cars	30,147	37,617	46,555	49,134	48,115
Automotive Parts (excl. engines, tires and electrical parts)	9,059	10,568	12,245	14,143	16,455
Motorcycles and Parts	772	1,014	961	655	710
Aircraft and Parts	3,033	3,600	4,525	4,512	5,206
Miscellaneous Manufactured Goods	45,361	51,684	60,079	69,037	74,087
Clothing	14,513	16,056	18,554	21,960	22,877
Footwear	5,424	6,104	6,857	7,654	8,435
Professional, Scientific and Controlling Instruments	2,770	3,298	3,987	4,621	5,299
Clocks and Watches	1,294	1,406	1,576	1,744	1,954
Printed Matter	1,041	1,175	1,446	1,569	1,657
Toys and Sporting Goods	3,700	4,451	5,088	6,438	7,120
Art Works and Antiques	2,489	2,217	2,123	1,978	2,068
Unclassified Commodities	9,938	11,245	15,042	12,500	12,800

Source: Department of Commerce

Table 48: U.S. Trade with Japan, 1984-1988

(in millions of dollars, seasonally unadjusted)

		Exports* (f.a.s.)	Change Over Year-Earlier Period	Imports (Customs)	Change Over Year-Earlier Period	Trade Balance	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984		$23,575	7.7%	$57,135	38.7%	$-33,560	$60,371	38.6%	$-36,796
1985		22,631	-4.0	68,783	20.4	-46,152	72,380	19.9	-49,749
1986		26,882	18.8	81,911	19.1	-55,030	85,457	18.1	-58,575
1987		28,249	5.1	84,575	3.3	-56,326	88,074	3.1	-59,825
1988		37,732	33.6	89,802	6.2	-52,070	93,168	5.8	-55,436
1987	January	1,785	1.3	5,900	-14.5	-4,115	6,146	-15.0	-4,361
	February	2,035	12.3	6,825	16.5	-4,790	7,100	15.6	-5,065
	March	2,139	7.1	6,804	-5.3	-4,665	7,086	-5.8	-4,947
	April	2,171	13.9	6,832	7.9	-4,661	7,117	7.7	-4,946
	May	2,151	24.2	6,934	7.7	-4,783	7,225	7.4	-5,074
	June	2,293	-40.6	7,333	1.3	-5,040	7,638	1.2	-5,345
	July	2,561	-12.9	7,341	-9.4	-4,780	7,635	-9.6	-5,074
	August	2,658	17.0	7,242	8.2	-4,584	7,536	8.1	-4,878
	September	2,424	20.3	6,781	15.3	-4,357	7,057	15.0	-4,633
	October	2,392	4.6	7,932	13.4	-5,540	8,257	13.6	-5,865
	November	2,638	32.6	7,179	-14.5	-4,541	7,485	-14.3	-4,847
	December	3,001	30.2	7,472	27.0	-4,471	7,793	27.1	-4,792
1988	January	2,668	49.4	6,354	7.7	-3,686	6,614	7.6	-3,946
	February	2,937	44.4	7,186	5.3	-4,249	7,468	5.2	-4,531
	March	3,232	51.1	7,481	9.9	-4,249	7,777	9.8	-4,545
	April	3,016	38.9	7,183	5.1	-4,167	7,452	4.7	-4,436
	May	2,932	36.3	6,786	-2.1	-3,854	7,049	-2.4	-4,116
	June	3,417	49.0	7,538	2.8	-4,121	7,816	2.3	-4,399
	July	3,229	26.1	7,406	0.9	-4,177	7,665	0.4	-4,436
	August	3,267	22.9	7,736	6.8	-4,469	8,018	6.4	-4,751
	September	3,245	33.8	7,073	4.3	-3,829	7,329	3.9	-4,084
	October	3,206	34.0	8,417	6.1	-5,211	8,724	5.7	-5,518
	November	3,200	21.3	8,187	14.0	-4,987	8,494	13.5	-5,294
	December	3,384	12.7	8,456	13.2	-5,072	8,763	12.4	-5,379

*Domestic and foreign merchandise, including Department of Defense shipments.

Source: Department of Commerce

Table 49: U.S. Exports to Japan by Commodity, 1984-1988

(in millions of dollars, f.a.s. value basis)

	1984	1985	1986	1987	1988
Total Exports to Japan*	$23,094	$22,042	$23,153	$27,341	$36,342
Agricultural Commodities	6,757	5,394	5,088	5,694	7,632
Nonagricultural Commodities	16,337	16,648	18,065	21,647	28,710
Food and Live Animals	4,705	4,011	4,144	4,691	6,760
Meat and Meat Products	571	541	761	898	1,375
Fish and Fish Products	503	685	864	1,059	1,576
Grain and Cereal Products	2,873	2,044	1,500	1,595	2,318
Wheat	534	469	424	352	426
Corn	1,999	1,305	878	1,036	1,616
Sorghum	270	243	178	182	219
Vegetables and Fruits	453	452	584	665	822
Animal Feeds	173	161	233	228	326
Beverages and Tobacco	399	417	390	665	969
Unmanufactured Tobacco	286	302	227	301	212
Cigarettes	95	95	128	492	606
Inedible Crude Materials	4,452	3,951	4,068	4,954	6,423
Hides and Skins	325	298	331	370	465
Soybeans	1,173	938	839	786	1,030
Synthetic Rubber	57	51	66	65	74
Logs and Lumber	841	885	1,097	1,573	1,906
Paper Base Stocks	528	476	568	757	1,052
Raw Cotton	605	368	239	414	484
Steel Scrap	265	199	170	123	148
Nonferrous Ores and Scrap	364	460	492	554	893
Mineral Fuels	1,812	1,782	1,311	1,297	1,422
Bituminous Coal	865	769	555	485	598
Petroleum Products	683	762	568	661	658
Animal and Vegetable Oils and Fats	53	51	50	38	65
Chemicals	2,961	2,908	3,081	3,422	4,002
Chemical Elements and Compounds	1,553	1,506	1,616	1,702	1,993
Organic Chemicals	717	704	732	870	1,106
Inorganic Chemicals	836	802	884	832	888
Pharmaceuticals	553	570	633	680	785
Fertilizers	122	124	99	153	165
Plastic Materials	372	324	336	423	544
Manufactured Goods Classified Chiefly by Material	1,403	1,244	1,291	1,769	2,787
Tires and Tubes	11	10	21	62	147
Paper and Paper Products	294	295	361	404	477
Textiles (excl. clothing)	113	108	122	159	244
Nonmetallic Mineral Products	152	150	194	259	363

(continued)

Table 49: U.S. Exports to Japan by Commodity, 1984-1988 (continued)

(in millions of dollars, f.a.s. value basis)

	1984	1985	1986	1987	1988
Iron and Steel	$63	$48	$52	$47	$155
Plate and Sheet	5	6	16	8	79
Nonferrous Metals and Alloys	379	289	206	394	826
Copper and Alloys	119	16	8	27	70
Aluminum and Alloys	226	258	188	358	741
Metal Manufactures	207	174	194	233	281
Machinery and Transport Equipment	5,223	5,751	6,221	7,076	9,830
Machinery	3,897	3,805	4,085	4,794	6,918
Power Generating Machinery	617	444	497	547	720
Aircraft Engines and Parts	218	295	357	383	514
Agricultural Machinery and Parts	23	25	33	41	97
Mining and Drilling Machinery and Parts	70	69	61	17	18
Printing and Bookbinding Machinery and Parts	23	32	29	36	51
Metalworking Machinery	77	84	122	100	146
Heating and Cooling Machinery and Parts	79	91	87	97	173
Centrifuges and Filtering and Purifying Machinery and Parts	48	49	53	72	116
Computers, Peripherals and Parts	1,057	1,250	1,301	1,626	2,352
Telecommunications Equipment	206	241	312	409	583
Other Electric Machinery and Parts	930	824	961	1,226	1,684
Electric Power Apparatus	173	163	178	190	262
Transport Equipment	1,327	1,946	2,137	2,283	2,912
Road Motor Vehicles and Parts	191	214	271	328	669
Cars	29	19	42	72	271
Automotive Parts (excl. engines, tires and electrical parts)	34	130	143	138	190
Aircraft and Parts	1,073	1,710	1,826	1,893	2,152
Commercial Aircraft	541	906	1,161	1,095	1,289
Aircraft Parts	519	574	654	796	855
Miscellaneous Manufactured Goods	1,479	1,483	1,801	2,383	3,209
Furniture	16	18	26	34	56
Clothing	43	34	46	98	161
Professional, Scientific and Medical Equipment and Measuring and Controlling Instruments	645	691	736	907	1,282
Photographic Supplies	225	219	267	270	287
Printed Material	66	60	64	78	102
Miscellaneous Rubber and Plastic Products	74	72	80	102	129
Toys and Sporting Goods	89	80	98	180	252
Musical Instruments and Parts	91	93	137	197	301
Unclassified Commodities	204	258	535	1,046	875

*Domestic merchandise only, including Department of Defense shipments.

Source: Department of Commerce

Table 50: U.S. Imports from Japan by Commodity, 1984-1988

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Total Imports from Japan	$60,371	$72,380	$85,457	$88,074	$93,168
Agricultural Commodities	243	269	291	239	250
Nonagricultural Commodities	60,129	72,111	85,166	87,835	92,918
Food and Live Animals	436	488	476	418	353
Fish and Fish Products	265	297	276	237	185
Beverages and Tobacco	39	39	46	53	50
Inedible Crude Materials	94	120	113	139	169
Mineral Fuels	59	67	75	92	125
Animal and Vegetable Oils and Fats	8	9	12	18	15
Chemicals	1,403	1,506	1,896	2,271	2,306
Chemical Elements and Compounds	673	731	902	1,065	1,104
Organic Chemicals	548	599	772	886	925
Inorganic Chemicals	125	132	130	179	179
Pharmaceuticals	78	87	127	158	176
Manufactured Goods Classified Chiefly by Material	7,872	8,222	7,384	7,069	7,856
Tires and Tubes	583	630	635	663	844
Paper and Paper Products	99	130	163	202	221
Textiles (excl. clothing)	717	764	908	802	715
Yarn	93	77	91	86	86
Cotton Fabrics	119	152	173	158	127
Other Fabrics	350	362	455	384	318
Glass, Glassware and Tableware	532	580	596	574	535
Steel Mill Products	3,453	3,344	2,454	2,427	2,899
Wire Rods and Bars	553	506	384	440	494
Plates and Sheets	1,739	1,564	1,329	1,405	1,452
Tubes, Pipes and Fittings	864	971	506	382	727
Nonferrous Metals and Alloys	531	561	532	478	433
Copper and Alloys	121	115	130	153	217
Aluminum and Alloys	346	363	347	257	143
Metal Manufactures	1,457	1,689	1,642	1,512	1,709
Machinery and Transport Equipment	44,662	54,842	67,266	69,447	72,589
Machinery	25,535	29,642	34,699	36,858	41,808
Power Generating Machinery	1,332	1,510	2,016	2,472	3,289
Agricultural Machinery and Tractors	373	422	510	523	440
Textile and Sewing Machinery	258	257	329	385	498
Metalworking Machinery	937	1,306	1,550	1,441	1,687
Office Machinery and Computers	5,454	5,843	7,551	9,147	10,587
Telecommunications Equipment	9,125	11,549	12,684	10,838	10,445
Radio Sets	295	316	279	277	226
Television Sets	706	851	890	520	208

(continued)

Table 50: U.S. Imports from Japan by Commodity, 1984-1988 (continued)

(in millions of dollars, c.i.f. value basis)

	1984	1985	1986	1987	1988
Stereo Equipment and Audio and Videocassette Recorders	$3,839	$5,368	$5,961	$4,130	$3,611
Other Electric Machinery and Parts	5,079	4,915	5,646	6,812	8,985
Transport Equipment	19,127	25,200	32,567	32,589	30,781
Road Motor Vehicles	16,244	21,669	27,891	27,194	24,308
Cars	13,038	17,126	22,011	22,162	20,626
Automotive Parts (excl. engines, tires and electrical parts)	1,622	2,125	3,260	4,075	5,018
Motorcycles and Parts	699	940	891	578	632
Aircraft and Parts	133	134	176	247	338
Miscellaneous Manufactured Goods	5,383	6,327	7,342	7,707	8,680
Clothing	527	519	491	399	314
Professional, Scientific and Controlling Instruments	794	977	1,159	1,248	1,467
Clocks and Watches	447	490	487	536	568
Printed Matter	148	166	213	224	243
Toys and Sporting Goods	416	592	555	770	1,471
Unclassified Commodities	416	760	849	861	1,025

Source: Department of Commerce

Table 51: U.S. Direct Investment Position Abroad, Year-End 1984-1988

(in millions of dollars)

	1984	1985	1986	1987	1988
Developed Countries	$157,123	$172,058	$194,280	$232,690	$245,498
Canada	46,730	46,909	50,629	58,377	61,244
United Kingdom	28,553	33,024	35,389	42,031	47,991
West Germany	14,823	16,764	20,932	24,792	21,673
Switzerland	14,725	15,766	16,441	19,518	18,672
Japan	7,936	9,235	11,472	14,671	16,868
Netherlands	5,839	7,129	11,643	14,361	15,367
Australia	8,918	8,772	9,340	11,143	13,058
France	6,406	7,643	8,952	11,771	12,495
Italy	4,594	5,906	7,426	9,008	9,075
Belgium	4,584	5,038	5,006	6,757	7,224
Ireland	2,869	3,693	4,308	5,135	5,743
Spain	2,139	2,281	2,707	3,789	4,368
Norway	2,841	3,215	3,216	3,844	3,834
Developing Countries	49,153	52,764	61,072	70,676	76,837
Bermuda	13,019	13,116	15,373	19,100	19,880
Brazil	9,237	8,893	9,268	10,288	11,810
Panama	4,474	3,959	5,525	6,131	6,140
Mexico	4,597	5,088	4,623	4,898	5,516
Hong Kong	3,253	3,295	3,912	4,390	5,028
Indonesia	4,093	4,475	3,217	3,050	3,006
Singapore	1,932	1,874	2,256	2,462	3,005
Netherlands Antilles	-26,664	-20,499	-16,969	-14,257	-11,796
International	5,204	5,428	4,448	4,617	4,565
Total	211,480	230,250	259,800	307,983	326,900
of which:					
Petroleum	58,051	57,695	58,497	61,800	59,658
Manufacturing	85,865	94,700	105,101	127,074	133,819
Wholesale Trade	21,117	22,790	26,214	31,379	34,401
Banking	13,516	14,461	14,510	15,161	16,120
Finance, Insurance and Real Estate	15,683	22,501	36,414	52,032	60,604
Services	4,447	4,683	5,128	6,408	7,130
Other	12,799	13,421	13,935	14,129	15,168

Source: Department of Commerce

Table 52: U.S. Direct Investment Position in Japan, Year-End 1984-1988

(in millions of dollars)

	1984	1985	1986	1987	1988
Total	$7,936	$9,235	$11,472	$14,671	$16,868
Petroleum	2,052	2,184	2,712	2,661	3,468
Manufacturing	4,076	4,584	5,439	7,136	7,876
Food Products	66	128	157	371	382
Chemicals	1,211	1,311	1,591	2,130	2,430
Metals	47	82	130	174	197
Nonelectric Machinery	1,341	1,664	1,809	*	2,630
Electric Machinery	409	331	475	634	852
Transport Equipment	481	625	699	551	630
Other	522	443	579	*	753
Wholesale Trade	1,196	1,581	2,173	2,950	3,473
Banking	176	178	204	333	262
Finance, Insurance and Real Estate	347	520	686	1,154	1,258
Services	31	83	109	157	206
Other	58	104	149	281	325

*Suppressed to avoid disclosure of data on individual companies.

Source: Department of Commerce

Table 53: Foreign Direct Investment Position in the United States, Year-End 1984-1988

(in millions of dollars)

	1984	1985	1986	1987	1988
United Kingdom	$38,387	$43,555	$55,935	$79,669	$101,909
Japan	16,044	19,313	26,824	35,151	53,354
Netherlands	33,728	37,056	40,717	49,115	48,991
Canada	15,286	17,131	20,318	24,013	27,361
West Germany	12,330	14,816	17,250	20,315	23,845
Switzerland	8,146	10,568	12,058	14,686	15,896
France	6,591	6,670	7,709	10,119	11,364
Netherlands Antilles	10,935	10,443	9,685	9,317	10,591
Australia	2,125	3,264	5,466	6,015	5,330
Sweden	2,258	2,357	3,963	4,953	5,263
Belgium	2,548	2,291	2,487	2,638	4,024
Kuwait	4,333	3,968	3,771	3,919	3,852
OPEC Countries	4,892	4,607	4,787	4,897	6,221
Total	164,583	184,615	220,414	271,788	328,850
of which:					
Mining	3,920	4,039	5,080	5,718	6,390
Petroleum	25,400	28,270	29,094	35,598	34,704
Manufacturing	51,802	59,584	71,963	94,745	121,434
Wholesale Trade	24,455	29,051	33,997	39,754	50,160
Retail Trade	6,764	6,822	8,923	10,255	14,770
Banking	10,326	11,377	12,394	14,455	17,453
Finance	5,633	4,246	7,239	3,828	2,124
Insurance	8,922	11,806	15,345	17,392	20,252
Real Estate	17,761	19,402	22,512	27,516	31,929
Other	9,599	10,019	13,868	22,527	29,635

Source: Department of Commerce

Table 54: Japan's Foreign Direct Investment Position in the United States, Year-End 1984-1988

(in millions of dollars)

	1984	1985	1986	1987	1988
Total	$16,044	$19,313	$26,824	$35,151	$53,354
Mining	7	7	*	*	*
Petroleum	-88	31	34	-2	-79
Manufacturing	2,460	2,738	3,578	5,345	12,222
Food Products	186	159	158	164	302
Chemicals	252	268	279	575	1,137
Metals	541	562	471	599	2,323
Machinery	628	715	1,052	1,527	2,542
Other	853	1,033	1,618	2,481	5,917
Wholesale Trade	9,689	11,796	13,687	15,352	18,390
Retail Trade	252	251	290	326	346
Banking	1,853	2,160	2,704	3,513	3,895
Finance	513	51	2,087	2,115	2,863
Insurance	138	119	*	*	*
Real Estate	744	1,536	2,941	6,098	10,017
Other	475	622	1,306	2,140	5,374

*Suppressed to avoid disclosure of data on individual companies.

Source: Department of Commerce

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JAPAN · ECONOMIC · INSTITUTE

JEI

REPORT

A Two-Part Report: A and B

NO. 40A

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JAPAN'S ENERGY POLICY: 1988 UPDATE

Summary

Sustained economic growth combined with domestic and international political changes have taken energy policy out of the spotlight in Japan. A period of relative yen-dollar stability and continued weak prices for oil on global markets have lulled many individuals and companies into taking a stable and reasonably priced energy supply for granted. While the government continues to fund conservation programs and the development of alternative supplies, even its ardor for energy efficiency and security has been thrown into shadow by the economy's rosy glow. But since growth exacerbates Japan's vulnerability to disruption of energy supplies, analysts argue that energy policy should actually be receiving more, not less, attention. Adding to policymakers' headaches, emerging environmental and political issues threaten to complicate the situation.

Aggregate Picture

Japan consumed more energy in FY 1988 (ended March 31, 1989) than in the previous year (see Table 1) when a spurt in usage reflected the continued economic expansion, according to Ministry of International Trade and Industry figures. Interestingly, energy consumed by the household and the transportation sectors has kept pace with the growth of industrial energy use, reinforcing the government's claim that domestic demand is now the main force driving the economy. As for the supply of energy (Table 2), oil usage reversed its gradual decline of the past several years, accounting for 57.2 percent of all supplies. Another worrisome sign for energy watchers is that after years of gradual expansion, nuclear power's share of the total energy supply slipped a bit in fiscal 1988 despite good growth in the amount of power generated. The strong

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expansion of hydroelectric and alternative energy sources was a bright spot in the supply picture, although the weather-dependent nature of hydropower diluted the good news.

Table 1: Japan's Energy Consumption by Sector

(millions of kiloliters of crude oil equivalent; percent change in parentheses)

Sector	FY 1985	FY 1986	FY 1987	FY 1988
Industry	158 (-0.4%)	156 (-1.2%)	163 (4.9%)	173 (5.9%)
Households	71 (3.8%)	72 (1.1%)	76 (5.2%)	80 (5.3%)
Transportation	64 (2.4%)	66 (3.5%)	69 (4.1%)	72 (5.6%)
Total	293 (1.2%)	294 (0.4%)	308 (4.8%)	325 (5.7%)

Source: Ministry of International Trade and Industry

Table 2: Japan's Energy Supply by Source

(in millions of units)

	FY 1987			FY 1988			
	Actual	Crude Oil Equivalent	Share	Actual	Crude Oil Equivalent	Share	Percent Change
Oil (kl)	248.7	260.0	56.9%	275.6	275.6	57.3%	6.0%
Coal (mt)	108.0	82.3	18.0	114.3	87.1	18.1	5.8
Nuclear (kw)	27.8	44.3	9.7	29.0	46.2	9.6	4.3
Natural Gas (kl)	45.7	45.7	10.0	43.3	43.3	9.0	-5.3
Hydroelectric (kw)	36.8	18.7	4.1	44.5	22.6	4.7	20.9
Alternatives (kl)	5.7	5.9	1.3	6.5	6.7	1.4	13.5
Total		457.0	100.0		481.0	100.0	5.3

Source: Ministry of International Trade and Industry

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Not surprisingly, imports of crude oil rose in 1988 (Table 3), although the level is still well below that at the beginning of the decade. Imports of petroleum products and nonoil energy sources were mainly up last year with two significant exceptions (Tables 4 and 5). Imports of gasoline fell almost 7 percent as domestic refiners fought back against lower-priced imports. The role of heavy fuel oil also declined slightly in 1988, another bit of positive news for energy planners. Tokyo, which has been urging industry to shift to cleaner, more efficient fuels for some time, was shocked by the huge jump in imports of heavy fuel oil in 1987. Although imports are still high relative to the rest of the 1980s, growth has at least been halted. The gradual elimination of domestic coal production accounts for part of the strong increase in coal imports, while a resurgent domestic petrochemical industry was responsible for pulling in more naphtha, a basic feedstock.

Table 3: Japan's Crude Oil Imports, Production and Inventories

(in 1,000 kiloliters)

	Production	Imports	Throughput	Rate of Operation	Ending Inventories
1980	505	256,833	232,452	67.3%	37,841
1981	456	230,239	210,072	60.9	35,978
1982	467	214,685	194,844	56.5	32,737
1983	492	207,794	187,780	56.9	29,550
1984	476	214,602	194,111	67.1	26,058
1985	625	198,330	179,805	62.3	25,483
1986	736	194,515	172,071	60.6	27,888
1987	707	185,380	167,389	60.7	26,953
1988	689	193,851	172,392	64.4	22,838
1988: 1-6	371	98,336	84,962	63.2	28,810
1989: 1-6	333	103,150	88,971	68.0	24,936

Source: Petroleum Association of Japan

Table 4: Japan's Imports of Gasoline and Kerosene

(in 1,000 kiloliters and percent change over previous year)

	Gasoline		Kerosene	
	Amount	Percent Change	Amount	Percent Change
1985	0	--	0	--
1986	3,293	--	2,648	--
1987	4,190	27.2%	6,012	127.0%
1988	3,902	-6.9	7,472	24.3
1988: 1-6	1,727	-18.4	4,118	72.1
1989: 1-6	1,959	13.4	4,122	0.1

Source: Petroleum Association of Japan

Table 5: Japan's Non-Crude Oil Energy Imports

(in thousands of units)

	Coal (mt)	Naphtha (kl)	Heavy Fuel Oil (kl)	LPG (mt)	LNG (mt)
1980	68,570	7,363	7,431	9,725	16,324
1981	77,959	7,241	7,404	10,097	16,833
1982	78,535	8,998	6,893	11,861	17,480
1983	75,124	13,096	7,285	10,860	18,748
1984	87,227	13,414	7,342	11,320	25,738
1985	93,448	14,896	7,493	11,540	27,556
1986	90,392	17,294	6,924	11,942	28,261
1987	90,915	20,043	8,010	12,612	29,167
1988	101,237	22,634	7,992	12,690	30,765

Source: Ministry of International Trade and Industry

The dramatic decline of oil prices bottomed out in 1988 with the year's average price of $15.60 a barrel well under the previous year's $17.79 mark. The yen-dollar exchange rate, however, continued to move in favor of the Japanese currency, pushing down the price of oil in yen terms even further (Table 6). Prices for most refined products (Tables 7 and 8) fell at both the wholesale and the retail levels. Wholesale prices in particular showed price declines for some products but less favorable changes for others. Consumer prices, conversely, showed generally moderate declines. This failure of the benefits of a strong yen to filter down to consumers is a nascent issue in Japan.

Table 6: Price (c.i.f.) of Imported Crude Oil

	Volume (1,000 kl)	Value ($ millions)	Dollars per bbl	Yen per kiloliter	Exchange Rate*
1980	254,428	$52,749	$32.97	Y47,197	Y236.14
1981	227,444	53,343	37.29	51,387	219.10
1982	212,235	46,266	34.66	53,906	247.28
1983	207,004	40,063	30.77	45,923	237.28
1984	208,908	39,379	29.36	43,713	236.66
1985	195,945	34,600	28.07	42,374	239.97
1986	188,838	19,502	16.42	18,189	176.12
1987	184,713	20,593	17.79	16,328	145.89
1988	192,166	18,852	15.60	12,550	127.93
1988: 1-6	97,577	8,987	17.10	13,611	126.49
1989: 1-6	101,540	10,277	16.23	13,506	131.90

*Yen per dollar

Source: Ministry of Finance

Table 7: Wholesale Petroleum Product Price Indices

	Gasoline	Naphtha	Jet Fuel	Kerosene	LPG	Fuel Oil C
			(1980=100)			
1980	100.0	100.0	100.0	100.0	100.0	100.0
1981	106.2	99.7	108.6	114.4	112.8	118.0
1982	114.1	101.4	121.7	131.2	129.6	124.1
1983	111.1	91.9	123.3	125.0	123.1	116.3
1984	108.6	81.1	122.0	121.2	119.4	101.8
1985	106.3	79.2	122.7	115.3	113.4	106.9
1986	94.2	45.6	98.5	86.1	83.6	72.8
			(1985=100)			
1985	100.0	100.0	100.0	100.0	100.0	100.0
1986	88.6	57.6	80.3	74.7	73.7	68.0
1987	82.0	41.1	66.4	62.3	61.2	38.5
1988	79.4	36.3	63.5	54.4	53.0	40.7
1988: 1-6	79.8	36.8	65.2	54.3	52.9	42.3
1989: 1-6	82.1	33.6	62.6	59.0	57.4	35.5

Source: Bank of Japan

Table 8: Consumer Prices for Petroleum Products

	National Price Index (1985=100)			Tokyo Retail Prices		
	Gasoline	Kerosene	Propane	Gasoline (1 liter)	Kerosene (18 liters)	Propane (cu. m.)
1980	85.6	107.4	94.9	Y155	Y1,543	Y4,881
1981	108.3	113.6	98.4	157	1,628	5,079
1982	118.1	125.9	98.6	172	1,791	5,104
1983	109.0	118.6	99.2	156	1,718	5,134
1984	103.4	109.1	99.7	150	1,613	5,131
1985	100.0	100.0	100.0	146	1,494	5,104
1986	88.0	82.6	97.0	128	1,246	4,974
1987	85.3	61.5	91.5	126	918	4,747
1988	81.6	53.5	89.0	122	842	4,590
1988: 1-6	82.1	54.7	89.8	122	856	4,646
1989: 1-6	82.8	50.4	88.9	122	786	4,548

Source: Management and Coordination Agency

With industry enjoying a boom and consumers on a spending spree it is natural that electricity output and consumption have jumped (Tables 9 and 10). Worrisome to MITI officials is the very large increase in electricity derived from thermal sources, which are mainly oil and coal-fired generators. Thermal plants raised their share of total generated output from 59 percent in 1987 to over 61 percent last year. Nuclear power's disappointing 1988 performance is attributed to the lengthy refueling process that took several reactors off-line. (Note that these figures do not agree with those in Table 2, which are on a fiscal year basis). On the consumption side it is clear that industry and households played equal roles in boosting total consumption. Electricity use by manufacturers rose about 11.4 billion kilowatt-hours, a little less than half of the gain in total consumption.

Table 9: Output of Electric Utilities in Japan

(in billions of kilowatt-hours)

	Total	Thermal	Nuclear	Hydro
1980	514.05	346.90	82.01	85.15
1981	523.14	352.18	87.23	83.74
1982	522.48	343.30	101.84	77.34
1983	555.49	360.98	113.12	81.39
1984	580.41	378.32	133.23	70.65
1985	603.93	363.75	158.98	81.19
1986	601.51	354.65	167.31	79.55
1987	640.16	378.99	186.61	74.57
1988	663.40	407.33	173.89	82.93
1988: 1-6	319.01	189.13	88.13	41.49
1989: 1-6	328.58	194.12	88.34	45.57

Source: Ministry of International Trade and Industry

Table 10: Japan's Electricity Consumption

(in billions of kilowatt-hours)

			Power				
				Manufacturing			
	Total	Light	Total	Total	Chemicals	Steel	Railroads
1980	464.25	105.27	353.98	190.77	26.79	61.80	12.71
1981	470.56	110.30	360.27	184.29	26.28	58.49	12.86
1982	471.44	112.79	358.65	177.95	29.22	53.69	13.06
1983	499.78	122.22	377.57	182.62	27.55	55.47	13.33
1984	524.53	127.51	397.02	191.97	28.76	57.04	13.13
1985	541.39	133.30	408.09	193.75	28.23	55.88	13.44
1986	537.74	136.52	401.22	182.05	25.61	50.01	13.62
1987	570.64	146.11	424.53	189.41	26.55	51.63	14.15
1988	592.91	151.41	441.49	200.84	26.76	54.44	14.70
1988: 1-6	287.96	76.01	211.94	96.50	13.23	26.91	7.19
1989: 1-6	299.07	79.28	219.79	103.71	13.46	27.92	7.43

Source: Ministry of International Trade and Industry

Japan's consumption of nonoil energy (Table 11) showed almost an across-the-board increase for 1988. The booming steel industry and the robust manufacturing sector both gobbled up significantly more coal and fuel oil, respectively, than the previous year. One interesting point is that Japan's efforts to promote liquefied petroleum gas as an automotive fuel continued to have a very mixed record, with consumption falling since 1984.

Total energy consumption by industry points to the widespread nature of the current economic expansion (Table 12). Consumption by every industry, except for metal and coal mining, which are specifically targeted to be phased out, was up in 1988, often by a significant amount. The rapidity with which total industrial energy consumption has grown since 1986 has caused concern within MITI.

Energy consumption by the household sector (Table 13) can only compound these worries since it, too, showed big gains last year in the use of practically all types of energy. The only consolation MITI can take from the numbers is that gains in the use of "cleaner" sources -- electricity, propane and LPG -- represented the majority of the increase. Reducing the role of coal, briquettes and other "dirty" sources has been a consistent government goal.

Energy Policy on the Back Burner . . .

Despite the rise in consumption, energy policy has been pushed down on the government's agenda because of a confluence of several developments. The first is the economy's strong performance over the past three years. October marked the 35th consecutive month of expansion, and both government and private forecasters see no clouds in the sky for at least the next 12 months. Unlike other expansions, the government is urging people to consume more as well as produce. Sales of large appliances and consumer electronics naturally have boosted demand for energy. There appears to be no place for a public campaign to promote energy conservation in this new consumer environment.

The strong, relatively stable yen and weak oil prices also have put energy concerns at the back of people's minds. Government-mandated reductions in the price of electricity and some other types of energy have had a negative impact on the conservation ethos that so dominated Japan in the 1970s. Not even the prospect that the once-dreaded Organization of Petroleum Exporting Countries was about to restore crude oil production discipline could rouse an oil-buying panic by Japanese traders.

The rise of other issues to the top of the political agenda similarly has relegated energy policy to a dark corner. The Recruit Co., Ltd. influence-peddling scandal and the subsequent electoral battering administered to the ruling Liberal Democratic Party were easily more interesting than worrying about the consequences of rising energy imports. The general debate over Japan's new role in the world as an economic superpower also has had an impact. The unspoken attitude is that a country trying to play a bigger role in global development, finance and trade does not have time to worry about its energy dependence.

This shift of priorities is reflected clearly in Tokyo's fiscal planning. Overall government spending on energy has taken a beating in the general account budget since FY 1985 when the allotment of Y626.2 billion ($4.5 billion

Table 11: Japan's Consumption of Imported Non-Crude Oil Energy

(in thousands of units)

	Coal (mt)			Heavy Fuel Oil (kl)				LPG (mt)			LNG (mt)	
	Coke	Steel	Power	Agriculture	Manufacturing	Shipping	Power	Chemicals	Power	Motor Vehicles	Residential	Power
1980	4,309	64,440	10,208	6,433	43,747	6,154	38,360	4,485	3,327	1,548	3,180	12,554
1981	5,197	64,650	13,972	6,444	35,690	4,730	34,508	4,465	2,707	1,241	3,411	12,857
1982	4,330	62,470	15,299	6,323	30,209	4,365	30,983	4,465	2,707	1,241	3,411	12,857
1983	4,551	57,368	18,063	5,707	27,769	4,112	29,476	4,047	3,082	1,822	4,195	14,039
1984	5,014	65,963	20,306	6,086	26,655	4,909	29,220	5,029	3,381	1,843	5,561	19,606
1985	5,821	66,344	23,988	1,303	24,853	4,709	22,271	5,176	3,321	1,722	5,589	21,396
1986	5,528	62,982	23,588	1,498	24,121	4,663	19,952	5,292	3,417	1,728	6,228	21,458
1987	4,652	59,221	14,237	1,708	24,787	4,784	18,411	5,492	3,680	1,543	6,518	22,080
1988	5,025	66,389	14,961	2,038	26,949	5,183	19,408	1,640	4,374	1,460	6,804	23,393

Source: Ministry of International Trade and Industry

Table 12: Energy Consumption by Industry in Japan

(in kiloliters of crude oil equivalent)

	Metal Mining	Coal Mining	Textiles	Pulp, Paper and Cardboard	Chemicals	Petro-chemicals
1983	85,704	663,943	4,023,117	10,480,791	57,216,628	10,671,659
1984	73,995	657,159	4,213,267	10,731,896	66,206,821	10,759,857
1985	73,747	635,692	4,218,646	10,838,465	66,477,596	10,374,103
1986	59,912	624,056	4,342,327	11,093,853	67,046,664	10,065,488
1987	41,522	563,563	4,525,413	11,665,369	69,846,332	10,008,241
1988	38,546	446,993	4,710,347	12,711,293	75,541,745	10,558,227
1988: 1-6	19,915	228,680	2,301,473	6,296,014	36,917,269	5,235,098
1989: 1-6	n.a.	n.a.	2,330,096	6,722,679	37,646,030	4,992,134

	Rubber Products	Nonmetallic Mineral Products	Steel	Nonferrous Ores and Metals	Machinery	Total
1983	421,307	15,482,503	45,462,302	4,375,242	13,676,921	133,909,803
1984	428,331	14,493,878	50,509,329	4,427,235	15,249,193	142,880,126
1985	415,468	13,527,752	50,763,316	4,250,973	15,393,058	141,789,300
1986	415,456	12,502,738	46,778,357	3,905,063	14,321,084	139,389,730
1987	400,364	12,280,545	47,333,105	3,757,101	14,926,466	143,452,025
1988	439,727	13,061,127	52,232,100	3,926,053	16,796,685	154,637,536
1988: 1-6	220,111	6,417,117	25,853,566	1,961,247	8,382,456	76,148,890
1989: 1-6	227,578	6,579,918	26,608,168	1,960,580	8,486,458	78,280,417

Source: Ministry of International Trade and Industry

at Y140=$1.00) was 2.6 percent higher than the previous year. Since then, outlays for energy measures have fallen a cumulative 26.8 percent to Y458.3 billion ($3.3 billion), according to revised spending figures for FY 1988. While the initial budget for the current fiscal year shows a 14.3 percent jump in this item, a downward revision by the end of the fiscal year is not unthinkable.

Table 13: Household Energy Consumption in Japan

	Electricity (mil kwh)	Propane (bil kcal)	Kerosene (1,000 kl)	LPG (1,000 mt)	Other Solids (1,000 mt)	Coal (1,000 mt)
1980	103,199	56,008	16,725	4,984	1,212.3	578.5
1981	108,979	58,178	16,730	5,336	970.0	472.5
1982	110,051	58,200	15,275	5,295	1,173.0	512.8
1983	117,905	60,748	15,928	5,460	1,010.3	509.2
1984	125,588	66,065	17,130	5,696	1,413.2	469.1
1985	129,682	65,706	16,060	5,611	1,479.3	371.9
1986	134,078	70,127	16,992	5,835	1,222.5	304.0
1987	141,531	69,799	16,556	6,114	969.9	228.3
1988	151,067	75,559	18,503	6,848	1,194.9	184.7

Source: Ministry of International Trade and Industry

. . . When It Should Be on the Front

Japanese energy specialists, however, are increasingly worried that the current good times could evaporate within a few years. On the one hand, economic shifts are building greater demand for energy into the economy. On the other hand, most observers agree that oil prices will rise sharply within the next decade. This mismatch, combined with Japan's continued dependence on imported fuels, is gradually pushing energy policy back into the spotlight.

Analysts point to two main factors that will increase Japan's base-level demand for energy:

- Tokyo has embarked on a campaign to make domestic demand the main engine of economic growth. Since private consumption accounts for over half of Japan's gross national product, encouraging consumer spending is considered a key policy. This fits well with the popular sentiment that it is time for the Japanese to begin enjoying the fruits of their hard work and sacrifices since the end of World War II. Tokyo is building more roads, airports and recreational facilities, all of which will lead to an increase in energy consumption by the household sector. In addition, Japanese consumers are more status- and gadget-conscious than ever, filling their homes with conveniences and luxury items that almost all require more power. Full-size refrigerators, large-screen televisions and even electronic bathroom fixtures are becoming commonplace in middle-class Japanese homes. Bigger, more powerful cars also are expected to take a larger share of Japan's market, ensuring that demand for gasoline will increase.

- Manufacturing probably will retain a significant position in the economy for decades, although Japan's services sector continues to increase its share of total economic activity. Japanese and foreign analysts agree that Japan's economy will continue to outperform its peers, translating into continued growth of industrial demand for energy. The revival of basic industries, including steel, petrochemicals and shipbuilding, are sure signs that energy-intensive manufacturing may not fade from sight.

Japanese energy experts are unanimous in forecasting that oil prices will increase sharply in the next 10 years. Several private and government reports show that the price of a barrel of oil could jump from the current $15 range to $25 or $30 by the turn of the century. The volatility of prices is evident from the data for the first months of this year. In dollar terms the average cost of a barrel of oil jumped from $13.28 in January to $17.46 in July. The increase was even greater in yen terms -- Y10,495 ($74.96) per kiloliter in January versus Y15,554 ($111.10) six months later -- given the dollar's appreciation over the same period. While some of the sting of a long-term rise in dollar-denominated oil prices may be reduced by the appreciation of the yen against the dollar, energy specialists take little consolation from the outlook for prices.

Analysts also agree that Japan cannot escape its heavy dependence on foreign energy. Despite increases in alternatives and nuclear power, Japan will continue to import 80 to 85 percent of its total energy needs for the foreseeable future. This dependence actually will increase as domestic coal mining is phased out and as the standard of living continues to increase.

Perhaps most worrisome to energy planners are the aggregate data from 1988. For the first time in many years, the growth of energy consumption outstripped real GNP growth, 5.7 percent versus 5.1 percent (Table 14). While industrial energy demand has done this often during recoveries, both the household and the transportation sectors also consumed energy at a faster rate than the economy grew as a whole. Not surprisingly, these discrepancies have led to a drop in a gross measure of the economy's energy efficiency for the first time since the 1970s. Dividing the value of Japan's GNP by the total amount of energy consumed shows that GNP per kiloliter of oil fell in FY 1988 to Y1,027,496

Table 14: Japan's GNP and Energy Consumption

	FY 1985	FY 1986	FY 1987	FY 1988
Gross National Product*	Y293,981.8	Y301,833.8	Y317,589.4	Y333,936.1
Change	4.5%	2.7%	5.2%	5.1%
Energy Consumption (kl)**	293	294	308	325
Change	1.2%	0.4%	4.8%	5.7%
GNP per Kiloliter***	Y1,003,350.9	Y1,026,645.6	Y1,031,135.4	Y1,027,495.7

*GNP in billions of yen at 1980 prices.
**Energy consumption in millions of kiloliters of crude oil equivalent.
***GNP per kiloliter of crude oil equivalent in yen.

Source: Ministry of International Trade and Industry

($7,339) from Y1,031,134 ($7,365) the year before. The fact that the decline followed several years of improvement has made planners hopeful that FY 1988 was an aberration in a positive trend.

MITI Responds?

The Ministry of International Trade and Industry has primary responsibility for energy policy, both as it relates to industry and households. MITI is resigned to the fact that a policy of fiscal austerity instituted in the early 1980s probably will remain in force for the coming decade and that some budget categories (notably defense and foreign aid) will be expanded at the expense of others. While this fiscal tournequet makes it difficult to win larger total outlays for energy measures, MITI is actively rearranging its spending to put money where it is needed.

According to MITI's initial requests for FY 1990, programs aimed at supporting imports of energy and helping the domestic coal industry have been raided to supply more money to programs designed to develop and introduce alternative energy sources. Coal programs will be cut a total of Y12.8 billion ($91.4 million), while outlays for low-cost trade financing for energy imports and for oil industry rationalization programs also will be reduced. Funds for developing more efficient generators and converting oil-fired plants to other fuels will rise about Y3.3 billion ($236 million). Other increases also have been penciled in: Y2.2 billion ($15.7 million) to commercialize solar power, Y1.3 billion ($9.3 million) for development of solar power technology, Y1.4 billion ($10 million) for high-efficiency gas turbines and Y1.3 billion ($9.3 million) for high-temperature superconductive technology. In addition, nuclear power development will get a boost of Y1.3 billion ($9.3 million) for technology development and almost Y4 billion ($286 million) for safety measures.

Besides sending a warning about energy consumption through its spending priorities, MITI is beginning to beat the drums of public relations. Faced with the sharply higher growth of energy consumption in 1988 and the first months of 1989, MITI's Agency of Natural Resources and Energy initiated a study to revise its long-term energy consumption forecast (see JEI Report No. 19B, May 12, 1989). The new forecast almost certainly will allow for increases in consumption, but analysts are divided about the magnitude of the change. A comparison of ANRE's current long-term outlook, issued in 1987, with its medium-term oil consumption forecast released this year (Tables 15 and 16) shows that the rates of expected growth are far apart: the 1987 estimate projects a little more than 1 percent growth per year in total energy consumption through 1995, while the new oil consumption survey sees average annual growth of 2.3 percent in the 1988-94 period. MITI also is considering other public measures, particularly regarding electricity consumption since new capacity cannot be added quickly. One move under study is to adopt daylight savings time in the summer months; briefly used in Japan during the American occupation the system has been dormant since then. If the proposal is accepted, MITI hopes the shift will reduce the use of airconditioning, the fastest-growing area of energy consumption, according to the ministry.

New Issues

Besides grappling with the traditional problems of conservation, dependence on foreign supplies and development of new energy sources, Japanese policymakers have been tossed two new issues that they must juggle with everything else:

Table 15: Long-Term Energy Outlook, October 14, 1987

(in millions of units and percent share)

	FY 1986		FY 1995		FY 2000		FY 2005	
	Units	Share	Units	Share	Units	Share	Units	Share
Coal (mt)	103.9	18.3%	121.0	18.3%	136.0	18.7%	150.0	19.0%
Nuclear (kw)	25.8	9.5	41.5	13.4	53.5	15.9	65.0	18.0
Natural Gas (kl)	42.8	9.9	55.0	11.1	58.0	10.8	60.0	10.0
LNG (kl)	28.8	6.7	36.0	7.3	38.0	7.1	---	---
Hydroelectric (kw)	35.8	4.2	42.5	4.5	45.5	4.4	48.5	4.0
Geothermal* (kl)	0.4	0.1	2.0	0.4	4.4	0.8	6.0	1.0
Alternatives* (kl)	5.5	1.3	12.5	2.5	24.5	4.5	52.0	9.0
Oil (kl)	246.0	56.8	245.0	49.7	242.0	45.0	240.0	42.0
Domestic (kl)	0.7	0.2	1.3	0.3	1.9	0.4	---	---
LPG (mt)	16.2	---	18.0	---	19.0	---	---	---
Total* (kl)	433.0	100.0	490.0	100.00	540.0	100.0	580.0	100.0

*Crude oil equivalent

Source: Ministry of International Trade and Industry

Table 16: Five-Year Outlook for Japanese Demand for Petroleum Products

(in thousands of kiloliters and percent)

Product	FY 1988 (estimated)	FY 1989 (projected)	FY 1989 Change	FY 1993 (projected)	1988-94 Average Annual Change
Gasoline	39,622	40,778	2.9%	44,284	2.2%
Naphtha	30,288	31,644	4.5	34,026	2.4
Jet Fuel	3,349	3,469	3.6	3,879	3.0
Kerosene	27,606	27,925	1.2	29,571	1.7
Light Fuel Oil	31,983	34,023	6.4	38,777	3.9
Fuel Oil A	25,138	26,265	4.5	28,821	2.8
Fuel Oil B	1,357	1,091	-19.6	557	-16.3
Fuel Oil C	43,810	46,389	5.9	47,502	1.6
Electric Power	20,919	23,231	11.1	24,018	2.8
Other	22,891	23,158	1.2	23,484	0.5
LPG*	17,117	17,549	2.5	18,948	2.1
Total	202,753	211,584	4.4	227,417	2.3

*In thousands of metric tons.

Source: Ministry of International Trade and Industry

- Environmental issues - Increased understanding that the global environment is a delicately balanced mechanism has combined with rising foreign expectations for Japan in international affairs to generate a barrage of criticism of many Japanese policies. Global attention to the so-called "greenhouse effect," in which increased levels of carbon dioxide and other gases in the atmosphere trap the sun's heat and cause global temperatures to rise, plus Japan's major role in the global motor vehicle industry have generated pressure for Tokyo to take the lead in developing technology to reduce engine and other emissions. The new environmental awareness also has created expectations that Japan will contribute its knowledge of advanced alternative energy technology (such as photovoltaic know-how) to the global effort to reduce carbon dioxide levels. Pressure from environmentalists even extends to such areas as foreign aid, where Japan is accused of helping to build "dirty" power plants in developing countries.

It is not clear whether MITI is equipped to handle these new concerns. Some worry that Japanese businesses and the ministry, with its traditional bias toward the needs of industry, will pay only lip service to these potentially catastrophic problems. Prime Minister Toshiki Kaifu is on record that Japan will play a major role in solving global environmental issues, and he is supported by numerous requests in the FY 1990 budget for environment-related projects. Government advocates of nuclear power were quick to seize on global warming as a reason to accelerate the development and the construction of new reactors, adding a new twist to an old policy of encouragement. The growing international and domestic awareness of the environmental situation may take some time, however, to be translated into new policies.

- Nuclear power and domestic politics - The strong showing in the July elections for the upper house of the Diet by the Japan Socialist Party has forced a careful examination of JSP policies by both the party itself and voters. In order for the JSP to pose a serious threat to the Liberal Democratic Party's grip on power, the JSP must clarify and defend many of its left-leaning policies, such as its position on nuclear power. The JSP traditionally has been staunchly antinuclear, be it for military or peaceful uses. Since winning the upper house election, however, the JSP has tried to move toward the center on the peaceful use of the atom, saying that the party would not seek to dismantle existing reactors but would oppose construction of new ones. As mentioned above, some pronuclear officials in the government are trying to hitch their promotion plans to the environmental bandwagon. The LDP maintains its position that nuclear power is an important part of Japan's energy picture and will continue to be developed as long as it is safe. (The safety issue has been the traditional dividing line in the Japanese debate on nuclear power; reactor accidents at Three Mile Island in Pennsylvania and Chernobyl in the Soviet Union have intensified the debate.)

Conclusion

It appears that Japan is at a turning point in energy policy. The earlier drive for conservation and increased efficiency has been overlaid with a policy promoting consumption by both industry and households. Temporarily low oil prices also have lulled many into a complacent mindset. A sharp rise in prices or a tightening of supplies could be a rude awakening for a country just becoming accustomed to its status as an economic superpower. Mixed in with the old are new issues that policymakers must address if they are to revitalize the country's preoccupation with energy efficiency.

For further information, contact Jon Choy.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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REPORT

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JAPAN'S FOREIGN AID POLICY: 1989 UPDATE

Summary

Japan has remained the world's number-two aid donor since 1986, unable to bump the United States from the top position despite dramatically higher foreign aid expenditures in the last two years. Tokyo appears anxious to become the world's largest aid provider and has sought to make its clout in international financial organizations commensurate with Japan's economic standing. The slow progress of these bids is partly attributed to other nations seeking to understand Tokyo's foreign aid vision -- how it plans to be the point man on economic assistance to developing countries. Other nations expect Japan to take leadership responsibilities in tandem with its significant monetary outlays. The United States, too, has some adjustments to make if Japan is to exercise more leadership.

Overview of Japan's Aid Policies

Japan has used its own development experience as a guide to its approach in helping Third World countries. At the end of World War II Japan's devastated economy resulted in the nation being classified as developing. With money borrowed from the World Bank and the United States, Japan rebuilt its infrastructure, now considered a key to its rapid industrialization.

The origins of Japan's foreign aid program were in its payments of war reparations to Asian nations from the mid-1950s through 1965. Until the first oil shock in 1973 Tokyo extended assistance to encourage economic interdependence but also to promote Japanese exports. The aid, primarily to Asia, had strings attached; recipient nations were required to spend the money on

Japanese products rather than seeking the lowest-priced item on the world market. This earlier policy of linking aid with the expansion of overseas markets still colors international perceptions of Tokyo's aid program.

The two oil crises of the 1970s made Japan feel particularly vulnerable and forced it to look beyond its traditional links with Asia toward strengthened ties with resource-rich developing countries, particularly those in the troubled Middle East. By bolstering its dealings with a diverse group of nations, Japan was better able to ensure a continuing supply of vital natural resources. Tokyo devised a strategy where its aid would be divided according to a 7-1-1-1 goal: 70 percent of its funds for Asia, with the remaining 30 percent split evenly among the Middle East, Africa and Latin America. Then as now, the bulk of Japan's money was allocated to Asia, partly because the region has a highly concentrated population of poverty-stricken people and partly because of traditional links to the region.

During the 1980s Japan added a "basic human needs" approach to its foreign aid philosophy in an effort to move away from large-scale infrastructure projects and to counter arguments that Tokyo's programs were largely export-oriented. The concept, announced by then Prime Minister Zenko Suzuki, targeted four key sectors: rural and agricultural development, renewable energy resources, human resource development and small to midsized businesses.[1] Additionally, more funds were made available for emergency and disaster relief.

Japan began a series of aid-doubling plans in 1977. The first plan aimed to increase annual aid disbursements to twice the 1977 level within a five-year period. The goal was more than met when funding soared from $1.4 billion in 1977 to $3.3 billion in 1980. After the success of the original plan Tokyo set another aid-doubling target for the 1981-85 period. The goal of distributing $21.4 billion over these five years fell short due in part to slow domestic growth and the government's new policy of fiscal austerity. Despite the shortfall Japan remained committed to strengthening its economic assistance and announced a third aid-doubling plan in 1985 to run over seven years and disburse more than $40 billion. Encouraged largely by the sharp appreciation of the yen and continued trade surpluses with much of the world, the government in early 1987 shortened the aid-doubling time frame to the 1986-90 period. In addition, former Prime Minister Noboru Takeshita increased the target to $50 billion during the June 1988 economic summit of leading industrialized nations.

Changing Motivations and Criticisms

Japan's success in increasing its foreign aid over the last 10 years (see Table 1) has been an unrivaled accomplishment. But as international political pressures bear down on the country, the government finds it is no longer sufficient just to give money in large quantities. Nor does Tokyo want to be

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[1] William Brooks and Robert Orr Jr., "Japan's Foreign Economic Assistance," Asian Survey, XXV, No. 3 (March 1985), p. 323.

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Table 1: Net Flow of Financial Resources from Japan to Developing Countries and Multilateral Agencies, 1984-88

(in millions of dollars)

Type of Transaction	1984	1985	1986	1987	1988	Percent Change 1987-88
Official Development Assistance	$4,319	$3,797	$5,634	$7,454	$9,134	22.5%
Change Over Previous Year	14.8%	-12.1%	48.4%	32.3%	22.5%	
ODA/GNP Ratio	0.34%	0.29%	0.29%	0.31%	0.32%	
Bilateral Assistance	2,427	2,557	3,846	5,248	6,422	22.4%
Grants	1,064	1,185	1,703	2,221	2,908	30.9%
Grant Assistance	543	636	855	1,154	1,483	28.5%
Technical Assistance	521	549	849	1,067	1,425	33.6%
Development Lending and Capital	1,363	1,372	2,143	3,027	3,514	16.1%
Grants, Capital Subscription and Loans to Multilateral Agencies	1,891	1,240	1,788	2,207	2,712	22.9%

Notes: 1. Net disbursement basis.
2. Due to rounding, the figures do not necessarily add up to the totals.

Source: Ministry of Foreign Affairs

merely a silent financier. Japan has been clamoring to take a leading role in the International Monetary Fund; it already is a major power behind the Asian Development Bank and ranks second at the World Bank. The international community, as well, is placing more demands on Japan to supply leadership in addition to money for economic development.

Greater economic clout means not only having a say in international development and economic policymaking but accepting the responsibilities of seeing that an aid philosophy is presented and carried out. As Japan sits poised to be the world's top aid donor, several key issues loom. While Japan has the money to help developing nations, is it willing to take on the responsibilities? Without a clearer aid philosophy that can be explained to the world, can Japan rally support for new trends in aid? If Japan is willing to help, are other countries, particularly the United States, willing to share power?

Japan defines its foreign aid philosophy as trying to help Third World countries develop economic self-sufficiency and stability. In this sense Tokyo prefers the use of loans to grants, a practice that has drawn criticism because most donor nations consider grant aid to be of higher quality (see below). Other criticisms of Japan's aid program stem from suspicions that its motives may be commercial, not humanitarian -- though all countries use aid to some extent to further their foreign policy agenda. Japan continues to combat an image of using aid for export promotion, a reflection of the early years of its foreign aid program and an image that it shares with France. Even the quantity of aid has engendered critical comments from those who say that the amount of aid does not meet expectations, given Japan's economic strength and its decision to promote aid as a form of global security.

The most common criticism of Japan's aid program is that it serves the interests of Japanese companies. Tokyo's aid policy in the 1960s and early 1970s did promote the export of Japanese products to developing countries through the use of tied aid, which forced recipients to purchase goods and services from Japanese companies. Although today Japan's aid is considered to be approximately 71 percent untied, many critics believe that the way Japan administers its program results in Japanese contractors having an edge. Under Tokyo's request-only policy, foreign governments propose projects for funding by Japan. But because many developing countries do not have sophisticated government bureaucracies or people with the technical expertise to draft a well-documented proposal, Japanese consultants/contractors write up a project prospectus and submit it on behalf of the foreign government. The upshot is that the Japanese firm having done the preliminary work usually wins the contract. Since 1986, however, there has been more international bidding for projects. Moreover, the Japanese government cosponsored two conferences in 1989 to advise American companies on how to win contracts for Tokyo's aid projects (see below).

Other critics of Japan's aid motives point to the somewhat confusing manner in which the country's aid figures are reported and question Tokyo's intentions. They wonder whether Japan's goal simply is to capture the number-one donor position rather than fulfill the leadership duties of the top foreign aid player. Robert Orr Jr., a professor at Temple University-Japan, recently criticized the confusing presentation of Japan's aid figures, which give the impression of mixing official development assistance with private-sector efforts. But some foreign analysts also contend that Tokyo adds to the melee.

Combining the statistics of ongoing and new programs under the name of a new initiative -- for example, the melding of the third and the fourth aid-doubling plans -- makes the goal appear larger than the extra funds committed.

Yet another criticism is that Japan's gross national product could support far more aid than Tokyo currently allots. Hiroshi Okuma, a professor at Seijo University, has said, "The world expects -- and demands -- that Japan commit itself to helping to an extent commensurate with its ability and directly bear the costs involved. The community of nations has repeatedly voiced criticism of Japan's low ODA/GNP and grants/ODA ratios."[2] Tokyo says that it is committed to raising Japan's ODA/GNP ratio to the average of the Development Assistance Committee members of the Organization of Economic Cooperation and Development. Yet, in 1988 Japan remained 12th among the 18 DAC members, giving 0.32 percent of GNP -- below the 1988 DAC average of 0.35 percent of GNP (see Tables 2 and 3).

Increasingly critics say Japan should take the lead in every sense if it is to assume the number-one donor position it has been pushing to achieve. "One of the most important responsibilities is that Japan has to be charged with the maintenance of the current international official development assistance regime," says Tokyo University professor Takeshi Igarashi.[3] As international expectations about the effectiveness of Japanese aid increase in tandem with the amount of aid given, Tokyo no longer can satisfy critics by saying that it is working on improving programs. In conjunction with foreign aid, Japan -- using a mixture of public/private assistance -- is taking the lead in helping to recycle Third World debt through plans proposed by former Finance Minister Kiichi Miyazawa and Treasury Secretary Nicholas Brady.

Quality Not Just Quantity

As a leader Japan cannot afford to take a passive stance. Although Japan was the number-two aid donor in 1988 with $9.1 billion disbursed in the form of grants, loans, technical cooperation and funding for multilateral organizations, the quality of its aid has been criticized as not keeping pace. Quality in aid relates both to form and how it is administered. For example, grants usually are considered to be of higher quality than loans. But while bureaucrats in Japan acknowledge that grant aid needs to be increased, grants as a portion of ODA fell in 1988. Also, despite the meteoric increase in aid disbursements, the number of personnel administering development grants and loans has remained low.

Yasuhiko Torii, a Keio University professor, believes that Japan's focus on loans is appropriate for countries whose needs are shifting (see Table 4). Loans on concessional terms work well for many Asian countries that are beginning to industrialize and build infrastructure, he suggests. Grants are more important when they can be used to alleviate poverty. Critics charge that Japan

[2] Hiroshi Okuma, "Japan in the World: The Capital Recycling Programme," Trocaire Development Review 1988, p. 82.

[3] Takeshi Igarashi, "The Japan Problem: How To Use the World's Largest ODA Budget?" Speech to the U.S.-Japan Forum at the Johns Hopkins University School of Advanced International Studies, April 12, 1989.

Table 2: ODA of Major Donor Countries, 1984-88

(in millions of dollars)

1988 Rank	Country	1984	1985	1986	1987	1988*	Share of Total DAC ODA 1988*
1	United States	$8,711	$9,403	$9,564	$8,945	$9,777	20.5%
2	Japan	4,319	3,797	5,634	7,454	9,134	19.2
3	France**	3,788	3,995	5,105	6,525	6,959	14.6
4	West Germany	2,782	2,942	3,832	4,391	4,700	9.9
5	Italy	1,133	1,099	2,403	2,615	3,012	6.3
6	United Kingdom	1,418	1,530	1,737	1,871	2,615	5.5
7	Canada	1,625	1,631	1,695	1,885	2,340	4.9
DAC Total		28,686	29,429	36,653	41,535	47,583	100.0

*Preliminary.
**Including overseas territories and prefectures.

Source: Organization for Economic Cooperation and Development

Table 3: ODA as Percentage of GNP for DAC Countries, 1984-88

(in millions of dollars)

1988 Rank		1984		1985		1986		1987		1988*		Percent Change 1987-88*
		Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	Amount	Percent of GNP	
1	Norway	$543	1.02%	$574	1.01%	$798	1.20%	$890	1.09%	$988	1.12%	11.0%
2	Netherlands	1,268	1.02	1,136	0.91	1,740	1.01	2,094	0.98	2,231	0.98	6.5
3	Denmark	449	0.85	440	0.80	695	0.89	859	0.88	922	0.89	7.3
4	Sweden	741	0.80	840	0.86	1,090	0.85	1,375	0.88	1,534	0.87	11.6
5	France**	3,788	0.77	3,995	0.78	5,105	0.72	6,525	0.74	6,959	0.73	6.7
6	Finland	178	0.36	211	0.40	313	0.45	433	0.49	610	0.59	40.9
7	Canada	1,625	0.50	1,631	0.49	1,695	0.48	1,885	0.47	2,340	0.50	24.1
8	Australia	777	0.46	749	0.48	752	0.47	627	0.34	1,091	0.46	74.0
9	Belgium	433	0.56	440	0.55	549	0.49	685	0.48	592	0.39	-13.6
9	West Germany	2,782	0.45	2,942	0.47	3,832	0.43	4,391	0.39	4,700	0.39	7.0
11	Italy	1,133	0.33	1,098	0.31	2,404	0.40	2,615	0.35	3,012	0.37	15.2
12	Japan	4,319	0.35	3,797	0.29	5,634	0.29	7,454	0.31	9,134	0.32	22.5
12	Switzerland	286	0.30	302	0.31	422	0.30	547	0.31	615	0.32	12.4
12	United Kingdom	1,418	0.33	1,530	0.33	1,750	0.32	1,887	0.28	2,615	0.32	38.6
15	New Zealand	55	0.25	54	0.25	75	0.30	87	0.26	104	0.27	19.5
16	Austria	181	0.28	248	0.38	198	0.21	201	0.17	302	0.24	50.2
17	Ireland	35	0.22	39	0.24	62	0.28	51	0.19	57	0.20	11.8
17	United States	8,711	0.24	9,403	0.24	9,564	0.23	8,945	0.20	9,777	0.20	9.3
DAC Total		28,686	0.36	29,429	0.35	36,653	0.35	41,535	0.34	47,583	0.35	14.6

*Preliminary.
**Including overseas territories and prefectures.

Source: Organization for Economic Cooperation and Development

Table 4: Japan's Bilateral ODA by Recipient Countries' GNP Per Capita Classification

(in millions of dollars

GNP Per Capita	1986		1987		1988	
LLDCs	$577.6	15.0%	$988.2	18.8%	$1,186.9	18.5%
LICs	1,795.6	46.7	2,264.9	43.2	3,566.7	55.5
LMICs	908.3	23.6	1,005.2	19.2	791.7	12.3
UMICs	165.0	4.3	384.3	7.3	227.3	3.5
NIEs	134.0	3.5	158.7	3.0	160.4	2.5
OPEC	33.5	0.9	122.3	2.3	19.6	0.3
Other	232.1	6.0	324.1	6.2	469.3	7.3
Total	3,846.2	100.0	5,247.6	100.0	6,421.9	100.0

LLDC: Least Developed Country
LIC: Low Income Country
LMIC: Lower Middle Income Country
UMIC: Upper Middle Income Country
NIE: Newly Industrialized Economy
OPEC: Organization of Petroleum Exporting Countries

Source: Ministry of Foreign Affairs

should provide more grants to help the least developed countries, such as those in Africa. Giving loans to debt-laden countries in Africa and Latin America may increase their debt service without increasing their ability to repay. Further, some critics believe that Japanese loans to countries on the verge of becoming newly industrialized economies may primarily increase business opportunities for Japan.

Japan, in part to quell international criticism of its aid policies, significantly increased aid to Africa in 1988, boosting it to 13.8 percent of total bilateral aid or $884 million from 9.8 percent or $516 million in 1987. Former Prime Minister Sosuke Uno also announced in July 1989 at the economic summit of industrialized nations that Japan will commit an additional $600 million to sub-Saharan Africa over the next two years. Japan does not have strong business links with Africa so its aid policies there are considered humanitarian and a prime example of what Tokyo could do as an aid leader.

The portion of Japan's aid going to Central and South America dropped in 1988 to 6.2 percent of bilateral ODA from 8 percent; the amount in dollar terms also declined, falling from $418 million to $399 million. But numerous opportunities for aid await. Mexico is hoping for an infusion of funds to combat Mexico City's severe air pollution problems.

Japan's efforts to increase the quality of aid are hampered by the bureaucracy that administers it. Four lead agencies -- Foreign Affairs, Finance, International Trade and Industry and the Economic Planning Agency -- work in conjunction with at least a dozen other organizations, including the Japan International Cooperation Agency, which coordinates technical cooperation, and the Overseas Economic Cooperation Fund, which administers concessional loans.

Efforts to name a foreign aid minister, who would have authority over all departments involved, have failed thus far. Ministries and agencies are left without a unifying leader and that leaves the door open for turf battles. However, the Foreign Ministry continues to exert the greatest influence on policymaking, particularly that involving aid as a foreign policy tool -- for example, burdensharing.

Beyond the interagency scuffles is the problem of a shortage of program administrators. While foreign aid has been one of the few discretionary spending programs exempt from the "zero ceiling" on budget increases, this waiver has not extended to hiring. In part, though, the shorthanded staff reflects Japan's continued preference for large infrastructure projects (see Table 5), which require sizable amounts of money but less administrative work and few technical overseers from JICA. Similarly, loans generally take fewer personnel hours to administer than a grant of equal size. Although the ministries and agencies involved in Japan's economic assistance program would like to increase the staff working on aid, obtaining additional funds and properly training personnel could be a slow process.

Another area confounded by a shortage of personnel and the apparent lack of an overriding policy objective is the environment. This newly emphasized topic in foreign aid policy -- perhaps best symbolized by efforts to protect rain forests and counteract global warming -- finds industrialized nations and international agencies considering ways to help developing countries progress without endangering precious natural resources. At the economic summit in July Japan announced a special allocation -- $2.25 billion to be given over the FY 1989-FY 1991 period -- to protect the environment (see Table 6).

Japanese aid administrators are concerned about the environmental impact of their work; JICA officials, for example, would like to see environmental considerations taken into greater account both during preliminary work and afterward. One important difference between the United States and Japan is that the Agency for International Development generally requires an environmental impact study to be conducted for projects. JICA and OECF have established guidelines for environmental assessments but are lagging behind in implementation because of shortages of technical personnel.

Environmental groups also are applying more pressure on the World Bank and other lending agencies to improve their environmental review. Criticism of Japan has been particularly strong on occasions when Tokyo has considered funding a project that the World Bank rejected for environmental protection reasons. For example, although Tokyo has denied that it contemplated funding a Brazilian dam rejected for World Bank funding, Brazilian representatives at an environmental conference in Japan raised the issue to criticize Japan's foreign aid policies.

Similarly, Japan is still accused of being a destroyer of rain forests because it imports timber that Malaysians and others have cut. In particular, JICA has come under fire from environmentalists for its role in building a logging road in a part of Sarawak, where local protesters have disrupted logging operations at various times since 1987.

The problem of environmental review is twofold. Developed countries' concerns about the environmental impact of aid projects can create resentment

Table 5: Japan's Bilateral ODA by Sector, 1987-88*

(in millions of dollars)

	1987	1988	Change 1987-88	Distribution 1987	Distribution 1988
Social Infrastructure	$1,029.1	$1,975.7	92.0%	14.0%	16.0%
Education	452.9	573.0	26.5	6.2	4.7
Health	162.1	250.5	54.5	2.2	2.0
Water Supply and Sanitation	191.7	719.1	275.1	2.6	5.8
Population	7.2	8.4	16.8	0.1	0.1
Public Administration	6.7	8.8	30.9	0.1	0.1
Development and Planning	39.1	44.6	14.2	0.5	0.4
Other	169.5	371.5	119.2	2.3	3.0
Economic Infrastructure	3,613.5	4,856.8	34.4	49.2	39.4
Transportation	1,679.3	1,525.6	-9.1	22.9	12.4
Communications	389.3	725.8	86.4	5.3	5.9
River Development	18.3	95.6	421.9	0.2	0.8
Energy	1,326.5	1,632.5	23.1	18.1	13.2
Other	200.2	877.4	338.3	2.7	7.1
Production Sector	1,107.6	2,383.9	115.2	15.1	19.3
Agriculture	662.6	1,133.5	71.1	9.0	9.2
Mining, Industry and Construction	399.2	1,157.4	189.9	5.4	9.4
Production	165.4	558.7	237.8	2.3	4.5
Resource Development	104.7	64.7	-38.2	1.4	0.5
Construction	0.4	310.0	836.8	0.0	2.5
Trade, Banking and Tourism	24.3	93.0	282.0	0.3	0.8
Multisector	103.1	132.1	28.1	1.4	1.1
Subtotal	5,853.3	9,348.5	59.7	79.7	75.9
Planning Aid	1,048.0	1,980.9	89.0	14.3	16.1
Structural Adjustment	26.3	31.2	18.8	0.4	0.3
Merchandise Aid	919.5	655.5	-28.7	12.5	5.3
Debt Relief	116.1	337.0	190.3	1.6	2.7
Food Aid	93.1	66.5	-28.6	1.3	0.5
Emergency Aid (excl. food aid)	2.6	18.6	625.0	0.0	0.2
Aid for Private International Organizations	1.9	2.4	24.2	0.0	0.0
Administrative Expenditures	214.4	266.0	24.1	2.9	2.2
Unspecified	13.3	306.0	220.8	0.2	2.5
Total	7,342.6	12,325.8	67.9	100.0	100.0

*Commitment basis.

Source: Ministry of Foreign Affairs

Table 6: Japan's Bilateral Assistance in Environmental Sector, 1983-87

(in millions of dollars)

Fiscal Year	Grants		Loans	
	Amount	Share*	Amount	Share**
1983	$30.7	9.0%	$82.8	3.4%
1984	35.8	9.9	197.3	11.2
1985	61.8	15.4	309.0	14.6
1986	81.4	13.2	36.0	1.8
1987	132.5	15.0	130.5	3.7

*Share in total grants.
**Share in total loans.

Source: Ministry of Foreign Affairs

in developing countries. Likewise, accusations of exploitation can loom if a proper regard for ecology is not shown by the developed-country donor. Dealing with internal conflicts complicates decisionmaking for aid donors -- especially if there is no overall guideline governing disbursements. Just as Tokyo has had trouble living down its image of giving aid for export promotion, the government has made little progress in improving international opinion of its environmental policies, including those related to foreign aid.

1988 Highlights

In an effort to raise its position in the international economic arena to one more in line with its impending status as the world's top aid donor, Japan has actively bid for a greater role in the IMF and has quietly sought a permanent seat on the United Nations Security Council. But its efforts have been thwarted thus far. Increased visibility in helping resolve Third World debt problems may have helped Japan advance its goals, but its latest bid in September to gain an increase in its IMF quota remains unresolved (see JEI Report No. 38B, October 6, 1989). Although Japan currently is number two at the World Bank, the United States appears to be dragging its feet on the IMF quota issue as it struggles to cope with Japan in the context of powersharing. The IMF would like a capital increase to meet the demands of the 1990s and the next century -- especially to implement the Brady Plan for Third World debt relief -- but some American leaders have expressed concern that the IMF has not sufficiently explained its long-term vision to warrant new funds.

As Japan grapples to obtain more multilateral recognition for its foreign aid program, the figures keep advancing. In 1988 Japanese aid as a percentage of GNP edged up to 0.32 from 0.31. Japan disbursed $9.1 billion compared with a preliminary $9.8 billion by the top-ranked United States, which gave a mere 0.20 percent of GNP (Tables 2 and 3). (According to recently revised data, U.S. foreign aid totaled $10.1 billion last year.) The DAC average was 0.35 percent, up from 0.34 in 1987. Japan ranked 12th in ODA/GNP alongside Switzerland and the United Kingdom. The United States pulled up the rear, joining Ireland in last place among DAC members. The Scandanavian countries again topped the list in terms of ODA/GNP. Only Norway gave more than 1 percent of its GNP for economic assistance in 1988. However, the United States remained the largest donor in absolute terms. Washington contributed 20.5 percent of the funds distributed by DAC members last year, while Japan gave 19.2 percent. France's donations also put it in double-digits, coming in at 14.6 percent.

While Japan's official development assistance increased 22.5 percent in dollar terms last year, the increase in yen terms was a modest 8.6 percent or from nearly Y1.1 trillion to just under Y1.2 trillion. Bilateral grants increased 16 percent in yen terms compared with a 30.9 percent rise in dollar terms (Table 1). Although there was an increase in the amount of grant aid, grants as a portion of ODA fell. The grant share (calculated on a commitment basis rather than the disbursement basis used in the tables) and the overall grant element declined to 36.3 percent and 73.2 percent, respectively, from 1987's levels of 47.3 percent and 75.4 percent. Tokyo attributed the higher grant level in 1987 to a capital subscription to the Inter-American Development Bank of $1.17 billion compared with a 1988 regular contribution of $5 million. The decline in the grant element was said to be due to a 71 percent increase in loan commitments in 1988.

The percentage of Japan's aid going to Asia decreased slightly to 62.8 percent from 65.1 percent in 1987, although the dollar amount expanded from $3.4 billion to $4 billion last year (see Table 7). Only one of the top 10 recipients -- Egypt in the tenth spot -- was not Asian (see Tables 8 and 9). Indonesia was again the top aid recipient with $985 million, while the Philippines took third place, receiving $535 million. Thailand, which got $361 million in foreign aid, came in fourth. Funding for members of the Association of Southeast Asian Nations fell in relative terms (down from 32 percent to 29.9 percent), but in absolute terms it rose to $1.9 billion from $1.7 billion in 1987. Three ASEAN countries, one less than two years ago, were among the top 10 recipients. China, the second-largest aid recipient in 1988 with $674 million in grants and loans, can expect a drop in its position this year since aid disbursements were postponed as a result of the military crackdown on prodemocracy student demonstrations this past summer. The primary beneficiaries of the decline in the relative amount of aid going to Asia were African nations, which, as mentioned, received 71.3 percent more money last year.

Trends for Cooperation

As Japan edges toward leadership in foreign aid in the monetary sense, there is much it can learn from the experienced United States -- provided the door for cooperation is open. For example, although Japan may be weak in terms of personnel, AID is rife with experienced staff caught by a slowdown in aid funding due to budget constraints. Although personnel exchanges have been discussed, no agreements between AID and its counterparts in Japan have been reached.

Last spring AID and OECF sponsored conferences in California and Florida to discuss ways American businesses could win more contracts for Japanese foreign aid projects. Many American businesses complain that non-Japanese firms are shut out of Japan's projects. Resentments on Capitol Hill run so high that legislators have reapproved the Export-Import Bank's "war chest," which tries to combat the use of tied-aid or mixed export credits (the practice of providing subsidized export credits linked to export purchases from the donor country).

Table 7: Japan's Bilateral ODA by Region, 1984-88

(in millions of dollars)

Year	Total	Asia	Middle East	Africa	Latin America	Europe	Oceania	Unallocable
1984	$2,427 (100.0%)	$1,594 (65.7%)	$249 (10.3%)	$211 (8.7%)	$229 (9.4%)	$1 (0.0%)	$25 (1.0%)	$117 (4.8%)
1985	$2,557 (100.0%)	$1,732 (67.8%)	$201 (7.9%)	$252 (9.9%)	$225 (8.8%)	$1 (0.0%)	$24 (0.9%)	$122 (4.8%)
1986	$3,846 (100.0%)	$2,494 (64.8%)	$340 (8.8%)	$418 (10.9%)	$317 (8.2%)	$2 (0.1%)	$55 (1.4%)	$221 (5.7%)
1987	$5,24[illegible] (100.0%)	$3,416 (65.1%)	$526 (10.0%)	$516 (9.8%)	$418 (8.0%)	$2 (0.0%)	$68 (1.3%)	$302 (5.8%)
1988	$6,422 (100.0%)	$4,034 (62.8%)	$583 (9.1%)	$884 (13.8%)	$399 (6.2%)	$4 (0.1%)	$93 (1.4%)	$425 (6.6%)

Note: Net disbursement basis.

Source: Ministry of Foreign Affairs

Table 8: Major Recipients of Japan's ODA, 1984-88

(in millions of dollars)

1984		1985		1986		1987		1988	
Country	Amount	Country	Amount	Country	Amount	Country	Amount	Country	Amount
China	$389	China	$388	China	$497	Indonesia	$707	Indonesia	$985
Malaysia	245	Thailand	264	Philippines	438	China	553	China	674
Thailand	232	Philippines	240	Thailand	260	Philippines	379	Philippines	535
Indonesia	168	Indonesia	161	Bangladesh	248	Bangladesh	334	Thailand	361
Philippines	160	Burma	154	Burma	244	India	304	Bangladesh	342
Bangladesh	123	Malaysia	126	India	227	Thailand	302	Pakistan	302
Burma	95	Bangladesh	121	Indonesia	161	Malaysia	276	Myanmar*	260
Egypt	81	Pakistan	93	Pakistan	152	Burma	172	Sri Lanka	200
Pakistan	67	Sri Lanka	84	Sri Lanka	127	Turkey	162	India	180
Sri Lanka	64	Egypt	73	Egypt	126	Pakistan	127	Egypt	173

*Formerly known as Burma.

Note: Net disbursement basis.

Source: Ministry of Foreign Affairs

Table 9: Major Recipients of ODA, 1987

(percent of total ODA by donor country)

Japan		United States		All DAC Countries	
Indonesia	8.6%	Israel	15.8%	Israel	4.1%
China	7.1	Egypt	11.3	Egypt	4.0
Philippines	6.4	El Salvador	3.2	India	3.3
India	4.7	Philippines	3.1	Indonesia	3.0
Thailand	4.6	Pakistan	2.1	Bangladesh	2.1
Bangladesh	4.2	Pacific Islands	2.0	Philippines	2.1
Burma	3.1	Honduras	1.7	China	1.9
Malaysia	2.9	India	1.6	Pakistan	1.7
Korea	2.3	Bangladesh	1.6	Tanzania	1.6
Pakistan	2.2	Costa Rica	1.5	Reunion	1.2
Egypt	1.8	Sudan	1.3	Thailand	1.2
Sri Lanka	1.8	Guatemala	1.2	Turkey	1.1
Turkey	1.7	Indonesia	1.0	Sudan	1.1
Nepal	1.0	Jamaica	1.0	Kenya	1.1
Brazil	0.9	Bolivia	1.0	Mozambique	1.0
Kenya	0.8	Peru	0.9	Sri Lanka	0.9
Mexico	0.8	Haiti	0.9	Somalia	0.9
Sudan	0.7	Morocco	0.8	Morocco	0.9
Zambia	0.7	Jordan	0.8	Martinique	0.9
Iraq	0.7	Somalia	0.7	El Salvador	0.9
Bolivia	0.6	Turkey	0.6	Ethiopia	0.9
Paraguay	0.6	Mexico	0.6	Senegal	0.9
Tanzania	0.5	Sri Lanka	0.6	Zambia	0.9
Peru	0.5	Dominican Republic	0.6	Zaire	0.8
Honduras	0.5	Portugal	0.5	Malaysia	0.8
Subtotal	59.7	Subtotal	56.2	Subtotal	39.2
Multilateral	26.9	Multilateral	19.7	Multilateral	25.2
Unallocated	3.9	Unallocated	13.6	Unallocated	10.9
Total ODA*	$7,425	Total ODA*	$9,913	Total ODA*	$41,406

*In millions of dollars.

Source: Organization for Economic Cooperation and Development, Development Co-operation: 1988 Report.

Projects like the multilateral aid initiative in the Philippines or new plans for countries like Nepal may prove a testing ground for Japan-U.S. cooperation efforts. Tokyo, however, may not want to enter into too many joint projects for fear of being subsumed by this country's agenda and strategic aid policy.

Conclusion

Japan faces numerous challenges now that its foreign aid rivals that of the United States in amount. Rapid expansion has overburdened the bureaucracy that must administer programs. Technical cooperation is a particularly weak link. Critics continue to lambaste Tokyo for providing low quality aid, favoring loans over grants, and for using aid as a tool to expand overseas markets -- criticism that Japan has been unable to dispel. How Japan deals with these and related problems and how rapidly improvements can be realized will have a great impact on the developing world. Increased cooperation between Japan and the United States will be ever more important as each nation has specific strengths and interests.

Pressed by Washington to shoulder more of the responsibilities of burdensharing, Japan has decided to make foreign aid its contribution to world security and stability. But as Julia Chang Bloch, former assistant administrator for the Asia and Near East Bureau of AID, recently said, "Japan . . . has staked its international credibility on the success of its aid program. Money, however, does not automatically confer credibility. Leadership is required, but Japan has yet to decide that it can or wants to lead."[4]

When Japan does become the leading aid donor in terms of disbursements within the next year or two, criticism can be expected to rise. Both recipient nations and donor countries will be looking to Japan to take a conceptual lead on development issues in the world, not just in Asia. The international aid community is waiting to see a more explicit Japanese vision of its foreign aid regime.

For further information, contact Gretchen Green.

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The views expressed in this report are those of the author and do not necessarily represent those of the Japan Economic Institute.

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[4] Julia Chang Bloch, "A U.S.-Japan Aid Alliance: Prospects for Cooperation in an Era of Conflict," USJP Occassional Paper 89-07, Program on U.S.-Japan Relations, Harvard University, p. 70.

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Japan's Trade Surplus Shrinks

"Wipe that smile off your face" could have been the admonition from the Economic Planning Agency to exporters as Japan's latest trade statistics were released. The figures showed that Japan's trade surplus on a customs-clearance basis for July to September dropped a whopping 16.2 percent in dollar terms from the same quarter a year ago (see Tables). Some in the export community reportedly saw the news as particularly favorable since the continued narrowing of Japan's trade imbalance reduces the chance that the yen will have to rise to lower the surplus or that protectionist pressures abroad will increase.

But EPA and many other experts saw things differently. With the yen more than 6 percent weaker than a year earlier, the so-called J-curve effect continued to make the reduction in Japan's trade surplus appear greater than it really was. Dollar-denominated export prices for Japanese goods were held down by

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the weak yen, and volume grew relatively slowly because of the yen's earlier appreciation. The combination of comparatively low prices and small volume gains held dollar-denominated export growth to 3.6 percent, well below the 11.9 percent jump in imports.

The influence of exchange rate movements and other price changes can be seen by comparing the dollar-denominated trade figures with the volume statistics. The volume of exports increased 4.9 percent in the third quarter from a year earlier, while imports were up 7.5 percent. The result was a modest decline in the trade surplus as measured by volume.

If the J-curve was not enough to dash the spirits of exporters, the figures on trade with the United States might have been. The dollar-denominated bilateral surplus dropped 5.8 percent but rose if measured in yen. From EPA's point of view the discouraging part of the bilateral results is the fact that the percentage of Japan's overall surplus generated by trade with the United States has been going up. A year ago the United States accounted for 62 percent of the total surplus; in this year's July-September quarter the figure was 70 percent. These numbers, along with a comparable trend in the U.S. trade picture, suggest to EPA officials that U.S. protectionsist pressures are likely to continue unabated.

Finally, many experts fear that the good news, even of the latest heavily qualified kind, is mostly behind Japan. As evidence, these analysts point out that the value of the yen, which went virtually straight up against the dollar between late 1985 and 1987, leveled off in 1988 and has fallen modestly this year. With inflation rates in Japan and elsewhere low, these twists and turns of the nominal exchange rate generally have conformed to the direction of the real exchange rate that affects trade imbalances. If, as many researchers feel, exchange rate effects take at most two or three years to be fully reflected in trade statistics, Japan's imbalance could be feeling the last of the yen's strength in 1987 and is about to be dominated by the currency's more recent weakness.

The drops in Japan's trade surplus in the last two quarters are expected to keep the number for fiscal year 1989, which ends next March 31, below that registered in FY 1988, but after that all bets are off. Nomura Research Institute, for example, sees Japan's trade surplus dipping from $95.3 billion in FY 1988 to $86.7 billion in FY 1989 before rising in FY 1990 to $91.9 billion. (Imports here are measured on a free-on-board basis rather than the cost, insurance and freight basis used in the customs-clearance figures.) Of course, such forecasts depend critically on future exchange rates and the health of the Japanese economy and its trading partners. Should the Japanese economy unexpectedly weaken, for example, demand for imports in Japan would be correspondingly less and the surplus wider. Should that not altogether impossible prospect loom, the grim faces could stretch from Tokyo to Washingon.

Douglas Ostrom

Japanese Banks Enmeshed In Mergers And Acquisitions

With vast pools of cash to invest and only low-yielding domestic opportunities, Japanese banks have been drawn irresistably to the potentially high

Japan's Total Trade in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$170,114	15.8%	$136,503	8.0%	$33,611
1985	175,638	3.2	129,539	-5.1	46,099
1986	209,151	19.1	126,408	-2.4	82,743
1987	229,221	9.6	149,515	18.3	79,706
1988	264,917	15.6	187,354	25.3	77,563
1987: I	51,464	13.1	31,977	-3.1	19,487
II	56,931	7.1	36,380	15.8	20,551
III	57,855	5.6	38,346	27.2	19,509
IV	62,972	13.0	42,812	34.5	20,159
1988: I	60,279	17.1	44,505	39.2	15,774
II	65,179	14.5	47,260	29.9	17,919
III	67,169	16.1	47,258	23.2	19,911
IV	72,291	14.8	48,331	12.9	23,960
1989: I	68,247	13.2	51,147	14.9	17,100
II	67,632	3.8	51,272	8.5	16,360
III (p)	69,574	3.6	52,885	11.9	16,689

Japan's Total Trade in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y40,325	15.5%	Y32,321	7.7%	Y8,004
1985	41,956	4.0	31,085	-3.8	10,871
1986	35,290	-15.9	21,551	-30.7	13,739
1987	33,315	-5.6	21,737	0.9	11,578
1988	33,939	1.9	24,006	10.4	9,933
1987: I	7,960	-8.2	4,959	-21.7	3,002
II	8,153	-10.6	5,207	-3.6	2,946
III	8,507	-1.5	5,644	18.6	2,864
IV	8,694	-1.9	5,928	17.2	2,767
1988: I	7,713	-3.1	5,688	14.7	2,025
II	8,163	0.1	5,918	13.6	2,246
III	8,924	4.9	6,280	11.3	2,644
IV	9,139	5.1	6,121	3.3	3,018
1989: I	8,707	12.9	6,516	14.6	2,191
II	9,226	13.0	6,994	18.2	2,232
III (p)	9,908	11.0	7,524	19.8	2,383

Japan's Trade with the United States in Dollar Terms

(in millions of dollars)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	$59,937	39.9%	$26,862	9.0%	$33,075
1985	65,278	8.9	25,793	-4.0	39,485
1986	80,456	23.3	29,054	12.6	51,401
1987	83,580	3.9	31,491	8.4	52,090
1988	89,634	7.2	42,037	33.5	47,597
1987: I	18,001	7.8	6,986	11.3	11,015
II	21,181	1.2	7,592	-8.6	13,589
III	21,628	1.6	8,252	9.7	13,376
IV	22,770	5.6	8,660	24.7	14,110
1988: I	19,859	10.3	10,090	44.4	9,769
II	21,610	2.0	10,458	37.8	11,152
III	23,056	6.6	10,667	29.3	12,389
IV	25,109	10.3	10,821	25.0	14,288
1989: I	22,728	14.4	11,566	14.6	11,162
II	23,011	6.5	12,065	15.4	10,946
III (p)	24,092	4.5	12,417	16.4	11,676

Japan's Trade with the United States in Yen Terms

(in billions of yen)

	Exports (f.o.b.)	Change Over Year-Earlier Period	Imports (c.i.f.)	Change Over Year-Earlier Period	Trade Balance
1984	Y14,221	39.7%	Y6,364	8.7%	Y7,858
1985	15,583	9.6	6,213	-2.4	9,369
1986	13,564	-13.0	4,918	-20.9	8,646
1987	12,148	-10.4	4,582	-6.8	7,566
1988	11,487	-5.4	5,388	17.6	6,099
1987: I	2,786	-12.7	1,083	-9.9	1,703
II	3,034	-15.5	1,086	-23.6	1,948
III	3,180	-5.2	1,215	2.1	1,965
IV	3,148	-8.2	1,198	8.5	1,950
1988: I	2,541	-8.8	1,290	19.1	1,251
II	2,706	-10.8	1,309	20.5	1,397
III	3,063	-3.6	1,418	16.7	1,645
IV	3,177	0.9	1,371	14.4	1,806
1989: I	2,900	14.1	1,474	14.2	1,426
II	3,141	16.1	1,649	25.9	1,493
III (p)	3,432	12.0	1,766	24.6	1,666

returns offered by the U.S. mergers and acquisitions market. Japanese banks are increasingly visible, especially in the mega-deals that have gotten wide coverage in the American press. As some Japanese banks are discovering, however, the risks, both economic and political, of playing the leveraged buyout game are at least as high as the anticipated returns.

The attractions of financing a leveraged buyout are obvious: in addition to a high rate of interest (anywhere from 1 percentage point to 3 points above the London Interbank Offered Rate), up-front fees can be as hefty as another 2 percent of the loan amount. Combined with loan maturities of as little as three months, backing a LBO can be a quick way to turn a profit.

According to some American estimates, Japanese financial institutions already have lent as much as $20 billion for U.S. mergers and acquisitions and have committed another $35 billion. When both outstanding loans and commitments are combined, Japanese banks may control as much as 25 percent of the American LBO market. (The U.S. bank share is estimated at 52.6 percent.) According to data from Japanese banks collected by Nihon Keizai Shimbun, Japan's role is growing steadily (see Table). Japanese banks already are acting as coleaders in arranging LBO financing; most observers expect them to act as lead organizers in the near future.

According to the figures in the table alone, Sanwa Bank, Ltd.'s exposure totals over $1.3 billion, with Fuji Bank, Ltd. close behind at just under $1.2 billion. Based on information filed with the Securities and Exchange Commission, Mitsubishi Bank, Ltd. has sunk almost $1.6 billion into the American LBO market. Despite rapid growth over the past few years, most observers agree that the total exposure of Japanese financial institutions in the U.S. LBO market remains small compared to their total overseas assets, somewhere in the range of 4 percent.

Despite their success in other fields, everything Japanese financial institutions touch does not turn to gold. Campeau Corp.'s recent financial troubles have cast a cloud over the $1.5 billion lent by Japanese banks to finance the Canadian real estate developer's buyout of Federated Department Stores Inc. Ever since Japanese banks provided a significant share of the funds that permitted Kohlberg Kravis Roberts & Co. to swallow huge RJR Nabisco Inc. earlier this year, however, the Bank of Japan has been cautioning domestic banks to examine each deal with a magnifying glass. A number of analysts in Japan are raising warning flags that many smaller banks, leasing firms and insurance companies, having bought U.S. junk bonds high before the market's October 13 plunge, may be in over their heads.

The role of Japanese banks and Tokyo in the October 13 equity market decline also is being closely examined. Most American press reports hinted that the Ministry of Finance expressed concern about the growing exposure of Japanese financial firms to the vagaries of the U.S. junk bond market. This "warning," so the story went, made Japanese banks more cautious about participating in the $6.8 billion buyout of UAL Inc. Instead of committing $3 billion as expected, Japanese backers pledged only $1 billion. This, according to American papers, caused the buyout plan to unravel, pulling the rug out from under UAL's stock and setting off a wave of selling on the New York Stock Exchange.

The Ministry of Finance has strongly denied issuing any sort of guidance to Japanese banks to restrain their LBO activities, apparently concerned that

Japanese Participation in Major American Mergers and Acquisitions

(funding commitment in millions of dollars in parentheses)

Date and Transaction	Japanese Participants
April 1988 - Kodak Inc.'s purchase of Sterling Drug Inc. for $5.1 billion Total Japanese commitment: $1.5 billion	Fuji Bank (300) Industrial Bank of Japan (300) Mitsubishi Bank (200) Sumitomo Bank (200) Tokai Bank (200)
July 1988 - Campeau Corp.'s purchase of Federated Department Stores Inc. for $6.5 billion Total Japanese commitment: $1.45 billion	Sanwa Bank (500) Sumitomo Bank (500) Bank of Tokyo (150) Long-Term Credit Bank of Japan (150) Nippon Credit Bank (150)
April 1989 - Kohlberg Kravis Roberts & Co.'s purchase of RJR Nabisco Inc. for $25.1 billion Total Japanese commitment: $6.2 billion	Dai-Ichi Kangyo Bank (550) Fuji Bank (550) Long-Term Credit Bank of Japan (550) Sanwa Bank (550)
July 1989 - Time Inc.'s purchase of Warner Communications Inc. for $14 billion Total Japanese commitment: $1.975 billion	Dai-Ichi Kangyo Bank (225) Fuji Bank (225) Industrial Bank of Japan (225) Mitsubishi Bank (225) Nippon Credit Bank (225) Sanwa Bank (225) Tokai Bank (225)
August 1989 - Checchi/KLM purchase of NWA Inc. for $3.45 billion Total Japanese commitment: $1.4 billion	Long-Term Credit Bank of Japan (200) Fuji Bank (110) Mitsubishi Bank (110) Sanwa Bank (110)
September 1989 - Sony Corp.'s purchase of Columbia Pictures Entertainment Inc. for $4.3 billion Total Japanese commitment: $3.55 billion	Mitsubishi Bank, Mitsui Bank, Fuji Bank, Bank of Tokyo and Industrial Bank of Japan; shares ranging from 17.5 percent to 25 percent of total financing

Source: Nihon Keizai Shimbun

the incident will be used by Japan-bashers to press for restrictions on Japanese access to U.S. financial markets. Japanese banks also strongly deny any MOF influence on their decision to limit their role in the UAL deal. It was the relatively skimpy fees (ranging from 0.5 percent to 1.25 percent) and the low interest rate (1.75 points over LIBOR) that made the deal unattractive, the leader of the Japanese bank consortium argued. American and Japanese analysts agree that the collapse of the U.S. junk bond market and the souring of several LBOs will make Japanese lenders much more cautious.

In any case, it is clear that deep pockets alone are not enough to guarantee success in such a complicated and highly volatile financial market. It is equally clear that Japanese banks are now an indispensible part of the U.S. mergers and acquisitions market, a situation that poses new political and economic challenges to government and business leaders on both sides of the Pacific. U.S. ambassador to Japan Michael Armacost said to a Toyko audience October 11 that whether the United States welcomes Japanese direct and portfolio investments in the future "depends on American perceptions that the opportunities our firms or our investors have in Japan are mostly comparable to those we extend to your business community." He said that while "formal barriers to investment in Japan have been significantly reduced, informal barriers persist and they are formidable." Japan cannot afford, in Mr. Armacost's opinion, "to be regarded as offering fewer opportunities to foreign investors at home than it seeks for its own business community abroad." Addressing the same Tokyo conference, Deputy Treasury Secretary John Robson said that in order to combat growing concern in the United States "that we may be losing control of our economic independence," Tokyo must act quickly to eliminate "real or apparent barriers to foreign investment" in Japan.

Jon Choy

Japanese Companies Globalize Fund-Raising

Japanese corporations are taking advantage of several factors to broaden their search for funds at home and overseas. In an era where massive investment in research and development and capital improvements is mandatory to remain globally competitive, Japanese firms are leaving no stone unturned.

According to Bank of Japan data on the flow of funds in the Japanese economy, domestic corporations are capitalizing on their greater freedom to raise funds where the market is most advantageous. Japanese companies traditionally have relied on bank loans to finance capital and other long-term expenditures. The continuing liberalization of Japanese financial markets and corporate fund-raising regulations, however, has given corporate planners the freedom to tap other sources of funds. Table 1 shows that while loans from private and public lenders continue to account for the majority of fund procurement by Japan's corporate sector, their share dropped from 80.6 percent of all funds raised in 1985 to 62.7 percent three years later. In 1986 and 1987 Japanese firms began raising more money by issuing securities, mainly domestic bonds and stock, taking advantage of eased bond issuing rules and a rising stock market. Since 1987, however, the new domestic commercial paper market clearly has been favored by corporate financial planners. Within two years of its 1987 debut, the domestic CP market supplied 14 percent of all funds raised by the corporate sector.

Table 1: Fund Procurement by Japan's Corporate Sector

(in billions of yen)

	1985		1986		1987		1988	
	Value	Share	Value	Share	Value	Share	Value	Share
Borrowing From:								
Private Financial Institutions	Y22,980	77.2%	Y26,290	78.7%	Y25,770	60.4%	Y30,110	55.6%
Public Financial Institutions	1,010	3.4	550	1.6	1,960	4.6	3,860	7.1
Total	23,990	80.6	26,840	80.3	27,730	65.0	33,980	62.7
Securities								
Industrial Bonds	680	2.3	1,580	4.7	2,360	5.5	1,610	3.0
Stocks	2,020	6.8	2,210	6.6	4,120	9.7	5,230	9.7
External Bonds	2,350	7.9	2,590	7.7	3,760	8.8	4,280	7.9
Total	5,050	17.0	6,370	19.1	10,250	24.0	11,120	20.5
Commercial Paper	0	0.0	0	0.0	1,700	4.0	7,590	14.0
Foreign Debt	740	2.5	200	0.6	3,000	7.0	1,510	2.8
Total	29,770	100.0	33,420	100.0	42,680	100.0	54,190	100.0

Source: Bank of Japan

According to data from the Tokyo Stock Exchange (see Tables 2 and 3), Japanese companies clearly shop around for the best venue to float their bonds. In the domestic market convertible bonds and stock issues are the favored fund-raising tools as companies take advantage of the TSE's rapid rebound from the October 1987 crash. The local market for warrant bonds (which also might be expected to benefit from the TSE's record-breaking performance), however, runs a poor second to the overseas warrant bond market. The key difference is that arranging a warrant bond issue in Japan remains more complicated and expensive than doing it overseas despite efforts by the Ministry of Finance to liberalize the domestic market. As a result, issues of warrant bonds in foreign markets, mainly European, have tripled their share of total funds raised over the last four years.

The TSE data also confirm the rapidly growing role of the domestic commercial paper market. In its first year of operation, 1987, the market generated funds equivalent to 14.8 percent of all money raised that year through the combined domestic and overseas securities markets. Last year Japanese firms tapped the CP market for cash equal to 62 percent of the funds they raised from bonds and stocks worldwide.

Both the Bank of Japan data and the TSE figures show that the domestic market remains the main source of funds for Japanese companies. Looking only at the directly comparable bond market figures, the local market still outweighed the overseas market by a margin of Y5,007.5 billion to Y4,821.4 billion ($35.8 billion versus $34.4 billion at Y140=$1.00) in 1988. According to one of Japan's leading daily newspapers, however, this may no longer be true. Nihon Keizai Shimbun reported October 20 that, by its estimates, Japanese corporations raised more funds on overseas bond markets than at home between April and

Table 2: Fund Procurement via Securities Markets by Publicly Traded Japanese Companies

(in billions of yen)

	1985		1986		1987		1988	
	Value	Share	Value	Share	Value	Share	Value	Share
Domestic Market								
Straight Bonds	Y590	9.5%	Y615	8.0%	Y820	7.1%	Y873	7.1%
Convertible Bonds	1,790	28.8	2,564	33.5	4,571	39.7	4,135	33.8
Warrant Bonds	10	0.2	84	1.1	33	0.3	0	0.0
Equity	548	8.8	658	8.6	1,521	13.2	2,410	19.7
Total	2,938	47.3	3,921	51.2	6,945	60.3	7,417	60.6
Foreign Markets								
Straight Bonds	1,464	23.6	1,555	20.3	1,127	9.8	615	5.0
Convertible Bonds	1,133	18.2	278	3.6	394	3.4	658	5.4
Warrant Bonds	672	10.8	1,906	24.9	3,057	26.5	3,548	29.0
Total	3,269	52.7	3,739	48.8	4,578	39.7	4,821	39.4
Total	6,206	100.0	7,659	100.0	11,524	100.0	12,239	100.0

Source: Tokyo Stock Exchange

Table 3: Fund Procurement via Securities Markets by Japanese Financial Institutions

(in billions of yen)

	1985		1986		1987		1988	
	Value	Share	Value	Share	Value	Share	Value	Share
Domestic Market								
Convertible Bonds	Y130	19.0%	Y180	24.5%	Y683	23.3%	Y2,459	46.7%
Warrant Bonds	0	0.0	32	4.3	0	0.0	0	0.0
Equity	311	45.4	215	29.1	1,492	50.9	2,373	45.1
Total	441	64.5	427	57.9	2,175	74.2	4,832	91.8
Foreign Markets								
Straight Bonds	53	7.8	14	1.9	2	0.1	9	0.2
Convertible Bonds	169	24.7	156	21.2	609	20.8	267	5.1
Warrant Bonds	21	3.0	139	18.9	146	5.0	154	2.9
Total	243	35.5	310	42.1	757	25.8	430	8.2
Total	684	100.0	736	100.0	2,932	100.0	5,261	100.0

Source: Tokyo Stock Exchange

September of this year. The paper estimated that Y6,507.7 billion ($46.5 billion) was raised on foreign markets during this period compared with Y5,799.6 billion ($41.4 billion) reaped from domestic markets. Nikkei said that Japanese firms have adopted a straightforward approach to raising funds through bonds, issuing them in the most advantageous market regardless of its location.

The data indicate that Japanese corporate finance is changing under the impact of domestic financial liberalization, becoming more sensitive to market forces. In turn, global financial markets will be forced to change as the competition for the ever-growing needs of Japanese business becomes more intense.

Jon Choy

Pachinko Payoffs: Another Recruit Scandal?

The Japanese media has touched off what may be Japan's next political scandal -- this one involving the Japan Socialist Party's relationship with the pachinko (pinball machine) industry. Shukan Bunshun, a popular weekly magazine, in early August published a special series that accused the Socialists of receiving substantial political contributions from pachinko parlor operators in 1984 in return for influencing Diet debate on legislation that would have tightened controls on the industry. Pachinko is Japan's most popular form of legalized gambling.

The magazine also maintained that some JSP legislators pressured the police to refrain from enforcing the introduction of prepaid cards in pachinko parlors. Prepaid cards would make it easier to document the earnings of an industry that from 1984 to 1988 was Japan's largest tax evader. In addition, Shukan Bunshun contended that some Socialist Diet members received political contributions from Chongryon (General Association of Korean Residents in Japan), a pro-North Korean organization, in violation of Japan's political contributions law, which prohibits the receipt of funds from foreigners or groups representing foreigners.

Although the story has been simmering for about two months, the ruling Liberal Democratic Party has seized the so-called pachinko payoff scandal during the current extraordinary Diet session in an apparent effort to redress the losses it incurred in the upper house of the Diet as a result of the Socialists' stunning victory in the July 23 House of Councillors elections. LDP secretary general Ichiro Ozawa told the press October 6 that his party will try and come down as hard as possible on the JSP. Following this warning LDP member Koichi Hamada October 17 proposed before the House Budget Committee that a JSP legislator and the author of the Shukan Bunshun article be summoned to the Diet to testify under oath about the affair.

The magazine alleged that Ippei Koyama, a JSP member of the upper house, received a political contribution from Chongryon. Approximately 60 percent of pachinko parlor owners are said to be Korean nationals residing in Japan who remain sympathetic to the economic and foreign policy interests of either Seoul or Pyongyang. The JSP is the only political party in Japan that favors normalization of relations with North Korea.

The Socialists rejected Mr. Hamada's proposal, arguing that a summons is inappropriate and too hasty. JSP officials insisted that Mr. Koyama did not